Answer Review

Observer Refresher Training / 2023-2026

11 quizzes / 220 questions

164 source-verified answers / 56 questions requiring review

Study aid, not an official answer key. Questions with ambiguous wording, incomplete information, or unverified station-specific behavior are explicitly marked and excluded from automatic scoring. Written and matching responses require manual comparison.

References use the FAA JO 7900.5E with Change 1 and the documented ASOS guide editions cited for each question. Historical system descriptions do not certify current station hardware or software. Confirm current controlling procedures before operational use.

Collection

October 2023 Fall/Winter Quiz - 20 questions

Winter 2024 Refresher Training - 20 questions

Spring 2024 Refresher Training - 20 questions

Summer 2024 Refresher Training - 20 questions

Fall 2024 Refresher Training - 20 questions

Winter 2025 Refresher Training - 20 questions

Summer 2025 Refresher Training - 20 questions

Fall 2025 Refresher Training - 20 questions

Winter 2026 Refresher Training - 20 questions

Spring 2026 Refresher Training - 20 questions

Fall 2026 Refresher Training - 20 questions

One additional marked scan has an unconfirmed quiz date and is excluded. Original scan files remain in the private archive.

October 2023 Fall/Winter Quiz

Answer review

20 questions | Original order retained

1. The intensity of freezing drizzle is determined according to the:

a. the temp/dew point spread

b. degree that it affects visibility

c. rate of accumulation

d. size of the drops

VERIFIED / Answer: b

Degree that it affects visibility.

For freezing drizzle alone, use prevailing visibility: light above 1/2 SM, moderate above 1/4 through 1/2 SM, and heavy at or below 1/4 SM. With other precipitation or obscurations, intensity cannot exceed the visibility-based limit.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.16(a), p. 61

2. A SPECI shall be transmitted whenever freezing precipitation or ice pellets _____, _____, or _____.

VERIFIED

Begins, ends, or changes intensity.

Each of these changes is an explicit SPECI criterion for both freezing precipitation and ice pellets.

FAA JO 7900.5E with Change 1, 3.11(f)(2)-(3), p. 16

FAA JO 7900.5E with Change 1, 9.14; 9.17, p. 61

3. Any form of precipitation that freezes on impact and forms a glaze on the ground or exposed surfaces is called:

a. snow grains

b. snow pellets

c. ice pellets

d. freezing precipitation

VERIFIED / Answer: d

Freezing precipitation.

The definition applies to precipitation that freezes upon impact and forms glaze, including freezing rain and freezing drizzle. Ice pellets, snow grains, and snow pellets reach the ground already frozen.

FAA JO 7900.5E with Change 1, 9.2(b)-(c), p. 53

4. Match the precipitation type with it's definition:
1. _____ snow grains
2. _____ ice pellets
3. _____ snow pellets

A. White, opaque grains of ice.

B. Very small, white, opaque grains of ice.

C. Transparent or translucent pellets of ice

VERIFIED

1-B: snow grains; 2-C: ice pellets; 3-A: snow pellets.

FAA definitions distinguish the very small opaque grains of snow grains, transparent or translucent ice pellets, and white opaque snow pellets.

FAA JO 7900.5E with Change 1, 9.2(c)(2), p. 53
FAA JO 7900.5E with Change 1, 9.2(c)(3), (5), p. 54

5. ASOS has failed and you are taking manual obs. Using a backup psychrometer, you determine the dry bulb temp to be -0.5C. The temp shall be transmitted as:

a. M01

b. 00

c. -01

d. M00

VERIFIED / Answer: d

M00.

The temperature-group rule explicitly gives -0.5 C as M00. Negative half-degree ties round toward the warmer whole degree, while the M prefix preserves that the measured temperature was below zero.

FAA JO 7900.5E with Change 1, 3.9, p. 15
FAA JO 7900.5E with Change 1, 13.15(b), p. 88

6. Which of the following does NOT require a SPECI ?

a. -SN changes to +SN

b. Small hail ends

c. -FZDZ ends

d. a squall is observed.

e. Snow grains begin or end.

VERIFIED / Answer: e

Snow grains beginning or ending is not a listed national SPECI trigger by itself.

Change 1 explicitly requires SPECI for snow intensity changes; small hail ending, freezing drizzle ending, and a qualifying squall also require SPECI. Snow grains (SG) are distinct from snow (SN). A separate visibility/ceiling trigger, critical condition, or local criterion can still require a SPECI.

FAA JO 7900.5E with Change 1, 3.11(f)-(g), p. 16

FAA JO 7900.5E with Change 1, 3.11(l), p. 17

FAA JO 7900.5E with Change 1, 9.2(c)(3), p. 54

7. If ASOS detects both light freezing rain and light snow, what will it report for present weather?

a. -FZDZ

b. -SN

c. UP

d. -FZDZSN

VERIFIED / Answer: b

-SN.

In the documented ASOS precipitation hierarchy, snow takes precedence over freezing rain. Table 6 maps freezing-rain detection plus -SN to -SN. This is unaugmented system behavior, not the manual rule for coding all observed precipitation types. The FZDZ distractors are preserved as printed.

NOAA ASOS User's Guide (March 1998), 4.3.6, p. 35

NOAA ASOS User's Guide (March 1998), 4.3.10; Table 6, p. 38

8. The visibility criteria for moderate ice pellets (PL) is:

a. 3-6SM

b. 1-3SM

c. less than1SM

NEEDS REVIEW - NOT SCORED

The FAA criterion is slow accumulation on the ground with visibility reduced by ice pellets to less than 7 miles; the printed ranges are incomplete.

Choice a is likely intended as shorthand for whole-mile values between the heavy-ice-pellet threshold and 7 SM, but the source does not define moderate ice pellets solely as 3-6 SM. It specifies accumulation behavior as well as visibility; heavy ice pellets involve rapid accumulation and visibility below 3 SM. No exact, complete criterion is offered, so do not auto-grade.

FAA JO 7900.5E with Change 1, 9.12, p. 59

FAA JO 7900.5E with Change 1, Tables 9-3 and 9-4, p. 60

FAA JO 7900.5E with Change 1, 9.19, p. 61

9. Match the present weather with the correct prevailing visibility.

1. _____ 1/2SM
2. _____ 1/4SM
3. _____ 3/4SM
4. _____ 1SM

a. SN

b. +SN FG

c. SN FG

d. FZDZ

NEEDS REVIEW - NOT SCORED

There is no complete one-to-one match. SN alone and FZDZ alone fit 1/2 SM; SN FG can fit 1/2 or 1/4 SM; +SN FG can fit 1/4 SM. None of the printed choices fits 3/4 or 1 SM as a complete standalone weather entry.

Moderate snow and moderate freezing drizzle cannot be reported above 1/2 SM; unqualified FG requires visibility below 5/8 SM. Fog can account for part of the restriction, allowing moderate snow with total visibility of 1/4 SM or less. The choices overlap, and two visibility rows have no suitable choice. Preserve the defective matching exercise without a grading key.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.16(a), p. 61

FAA JO 7900.5E with Change 1, 9.3(g), (j), p. 55

10. With a present weather scenario of SN FG, which of the following prevailing visibility values would be invalid:

a. 1/2SM

b. 1/4SM

c. 5/8SM

d. 0SM

VERIFIED / Answer: c

5/8SM is invalid.

SN cannot be reported when visibility exceeds 1/2 SM, and FG without a special qualifier requires visibility below 5/8 SM. At 1/4 SM or even a reportable manual visibility of 0 SM, fog can contribute to the reduction, so SN need not automatically become +SN. The manual reporting table includes 0 SM.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.3(g), p. 55

FAA JO 7900.5E with Change 1, 13.11; Table 13-3, p. 82

11. If ASOS detects snow at temps above 38F, then the PI sensor is set to:

a. -SN

b. UP

c. -RA

d. NP

VERIFIED / Answer: d

NP (No Precipitation), as the PI output used by the algorithm.

The documented PI algorithm overrides a -SN, SN, or +SN sensor output to NP when the temperature is above 38 F. NP is an internal/output state, not a literal NP weather group to insert in a METAR. This verifies the documented 1998 algorithm, not a specific installed station's software version.

NOAA ASOS User's Guide (March 1998), 4.3.6, p. 35

12. Along with a visibility and sky cover requirement, ASOS reports blowing snow with a temp of_____F or less, and wind speeds greater than_____KTS.

a. 32F / 30KTS

b. 28F / 25KTS

c. 14F / 22KTS

d. 20F / 15KTS

VERIFIED / Answer: c

14F or less, with wind speed greater than 22KTS.

The documented blowing-snow correction uses 15-minute average temperature and wind, visibility below 7 SM, and sky cover less than overcast or a ceiling above 10,000 feet. It replaces a false LEDWI rain report in the specified cold/windy conditions; these are ASOS algorithm thresholds, not universal manual BLSN criteria.

NOAA ASOS User's Guide (March 1998), 4.3.6, blowing-snow algorithm, p. 36

13. With a prevailing visibility of 1/2SM, which of the following would be a valid present weather entry?

Select all that apply.

a. +SN

b. +SN FG

c. SN

d. -SN FG

VERIFIED / Answer: c, d

SN and -SN FG can both be valid.

At 1/2 SM, snow alone can be moderate. With fog contributing to the visibility reduction, light snow with fog is also valid. Heavy snow is forbidden above 1/4 SM even if another obscuration is present, so neither +SN nor +SN FG is valid here.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.3(g), p. 55

14. The ASOS wind sensor is out of service. Using the airport wind system, the ATCT informs you the winds are averaging 25KTS over the past 2 minutes, and varying rapidly between 20 and 30KTS. This backup information would be entered via the OID as:

a. 25

b. 25G30

c. 20G30

d. 20Q30

NEEDS REVIEW - NOT SCORED

The supported meteorological value is 25 knots gusting to 30 knots, represented by the speed/gust portion 25G30. The exact OID entry requires the applicable terminal instructions.

The 2-minute mean is 25 knots and the peak-to-lull range is 10 knots, meeting the FAA gust definition. Thus b expresses the appropriate wind information, but the question specifically asks what to enter via the local OID. The checked order establishes reporting and coding, not the station-specific field syntax or workflow. No supplied local OID procedure has been verified, so leave this ungraded.

FAA JO 7900.5E with Change 1, 7.2(b); 7.3, p. 45

FAA JO 7900.5E with Change 1, 7.8; 7.10, p. 47

FAA JO 7900.5E with Change 1, 13.10(a), p. 81

15. TRUE or FALSE: The intensity of ice pellets may be determined by either visibility or rate of fall.

A. True

B. False

VERIFIED / Answer: A

True, with the qualification that the visibility-based method also uses accumulation behavior.

FAA 9.12 permits estimating ice-pellet intensity using the descriptive criteria in Table 9-3, which include visibility and accumulation, or the rate-of-fall criteria in Table 9-4. Visibility alone should not be treated as the entire descriptive criterion.

FAA JO 7900.5E with Change 1, 9.12, p. 59

FAA JO 7900.5E with Change 1, Tables 9-3 and 9-4, p. 60

16. You are taking manual obs due to ASOS failure. Snow is occurring 3-6 miles southeast of the station. The correct present weather entry shall be:

a. SHSN

b. VCSN

c. VCSH

d. VCSHSN

VERIFIED / Answer: c

VCSH.

Precipitation not occurring at the observation point but within 10 statute miles is coded VCSH, without its precipitation type or intensity. The 5-10 SM vicinity range used for non-precipitation phenomena does not exclude precipitation 3 miles away.

FAA JO 7900.5E with Change 1, 9.7(b), p. 58

FAA JO 7900.5E with Change 1, 13.13(b)(2), p. 83

FAA JO 7900.5E with Change 1, 13.13(c)(7), p. 84

17. The prevailing visibility has decreased from 1SM in BR to 1/2SM, while the temp has decreased from 1C to 0C. The correct present weather entry is:

a. FZFG

b. BR

c. FZBR

d. FG

VERIFIED / Answer: d

FG.

Given the existing water-droplet obscuration, 1/2 SM falls below the 5/8 SM fog threshold. At an actual temperature of 0 C, the below-zero condition for FZFG is not met. FZBR is not an allowed descriptor combination. This treats the stated temperature as the actual value, not merely a rounded METAR temperature.

FAA JO 7900.5E with Change 1, 9.3(g), (h), (j), p. 55

FAA JO 7900.5E with Change 1, 13.13(c)(1), (9), p. 84

18. At 0453Z you observe 4" of snow on the ground. At 0515Z it begins to snow. At 0553Z you measure 4.5" of snow. The required snow remarks are:

a. SNINCR 1/5 4/005

b. 4/005

c. SNINCR 1/5

d. 4/004

NEEDS REVIEW - NOT SCORED

At an eligible station, SNINCR 1/5 is supported; 4/005 also belongs in the observation representing the 0600 UTC synoptic report.

The depth increase is 0.5 inch in the past hour, which reports as 1 inch, and the rounded total depth rises from 4 to 5 inches. These satisfy both SNINCR tests. However, SNINCR depends on station/service applicability, 4/sss is required at Appendix F stations at specified synoptic times, and the prompt does not identify the station or explicitly establish that 0553Z is its nominal 0600 UTC report. Choice a is conditional, not a universally gradable requirement.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.42, p. 95

FAA JO 7900.5E with Change 1, 13.50, p. 98

FAA JO 7900.5E with Change 1, Appendix F.1-F.3, p. 140

19. Temperatures of, -0.3C, -0.5C, and -4.5C, should be transmitted as:

a. 00 M01 M05

b. M00 M00 M04

c. 00 M01 M04

d. M00 M00 M05

VERIFIED / Answer: b

M00, M00, M04.

Round to whole degrees under 3.9: -0.3 and -0.5 round to zero, and -4.5 rounds to -4. Retain the subzero M prefix for all three measured negative temperatures.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.15(b), p. 88

20. Which of the following precipitation events requires a SPECI:

a. hail begins or ends

b. freezing rain begins, ends, or changes intensity

c. ice pellets change intensity.

d. snow intensity changes from heavy to light.

e. all of the above.

VERIFIED / Answer: e

All of the above.

All four component events meet 3.11(f). In particular, Change 1 adds beginning, ending, and intensity changes of snow; an answer based on an earlier edition without that change would be outdated for this quiz.

FAA JO 7900.5E with Change 1, 3.11(f)(1)-(4), p. 16

Winter 2024 Refresher Training

Answer review

20 questions | Original order retained

1. The ASOS freezing rain report is set to FZRA if the current 5 minute ambient temp is less than_____F

A. 37

B. 32

C. 30

D. 28

VERIFIED / Answer: A

37 F.

The documented freezing-rain algorithm uses a current 5-minute ambient temperature below 37 F, together with its ice-accretion tests. Temperature below 37 F alone does not create a FZRA report. This is a system algorithm threshold, not the manual physical definition of freezing precipitation.

NOAA ASOS User's Guide (March 1998), 4.3.9, p. 37

2. With a surface prevailing visibility of 1/4SM, which of the following present weather example would be valid?

A. -SN FG

B. BLSN

C. +SN

D. SN FG

E. All examples are valid.

VERIFIED / Answer: E

All examples can be valid.

Heavy snow alone is allowed at 1/4 SM. Fog can account for part of the visibility restriction, so either light or moderate snow with fog can also be valid at that total visibility. Blowing snow can restrict visibility to 1/4 SM. These are possible combinations, not deductions of the actual weather from visibility alone.

FAA JO 7900.5E with Change 1, 9.3(c), (g), p. 55

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

3. A thunderstorm with light snow is occurring at the station. The sky condition is OVC030CB. A snow squall moves over the airport reducing the surface prevailing visibility to 1/4SM. The sky has become totally obscured with a vertical visibility of 700 feet. What would be the correct sky condition?

A. VV007

B. VV007CB

C. OVC007CB

D. OVC007

VERIFIED / Answer: A

VV007.

A surface-based obscuration that completely hides the sky is reported with vertical visibility, here 700 feet or VV007. It is not an observed cloud base at 700 feet. CB is appended to an identified cloud-layer report, not to the VV group.

FAA JO 7900.5E with Change 1, 10.4(a), p. 66

FAA JO 7900.5E with Change 1, 10.4(n)(1), p. 67

FAA JO 7900.5E with Change 1, 13.14(e); cloud-type suffix instructions, p. 87

4. You are estimating that blowing snow is obscuring half of the sky. Above the blowing snow, the remainder of the sky is covered by a cloud layer based at 1000 feet. Which of the following is the correct sky condition and remarks?

A. SCT000 OVC010 / BLSN SCT000

B. SCT000 SCT010 / SN SCT000

C. SCT000 OVC010 / SN SCT000

D. SCT000 BKN010 / SN SCT000

VERIFIED / Answer: A

SCT000 OVC010, with the remark BLSN SCT000.

Four eighths hidden by surface-based blowing snow is SCT000. The visible cloud cover plus the lower obscuration sums to eight eighths at 1,000 feet, giving OVC010. The remark must identify BLSN, not falling SN, as the cause of the surface obscuration.

FAA JO 7900.5E with Change 1, 10.7; Table 10-3, p. 70

FAA JO 7900.5E with Change 1, 10.10, p. 71

FAA JO 7900.5E with Change 1, 13.35, p. 93

5. The stated accuracy of the ASOS pressure sensors is +/- _____inches of mercury.

A. .01

B. .02

C. .03

D. .04

VERIFIED / Answer: B

+/- 0.02 inches of mercury.

The ASOS User's Guide lists pressure-sensor accuracy as +/- 0.02 inHg. This instrument accuracy specification is distinct from sensor resolution and from allowable agreement between redundant sensors.

NOAA ASOS User's Guide (March 1998), 3.3.1, p. 18

6. The RVR is an estimate of the _____distance the runway or runway lights can be seen.

A. Maximum

B. Minimum

C. Average

VERIFIED / Answer: A

Maximum.

RVR estimates the maximum distance at which the runway or its specified lights or markers can be seen from above a specified point on its centerline.

FAA JO 7900.5E with Change 1, 8.2(h), p. 49

7. The following sector visibilities are being observed in snow and blowing snow conditions: N-NE 1/2, NE-E 3/4, E-S 1/4, S-SW 1, SW-W 1/2, W-N 1/4. Which of the following is the correct combination of prevailing visibility and present weather?

A. 1/4SM / +SN BLSN

B. 1/2SM / SN BLSN

C. 3/4SM / -SN BLSN

D. 1SM / -SN BLSN

NEEDS REVIEW - NOT SCORED

Prevailing visibility is 1/2 SM. Choice B has that visibility, but the snow intensity is not uniquely established by the supplied observations.

Sectors at or above 1/2 SM cover 180 degrees: N-NE, NE-E, S-SW, and SW-W, each 45 degrees. Sectors at or above 3/4 SM cover only 90 degrees. With blowing snow contributing, total visibility limits the maximum falling-snow intensity but does not prove it is moderate; -SN BLSN is also possible. B is the only listed visibility match, but the coupled intensity claim needs an independent observation, so do not grade the complete item.

FAA JO 7900.5E with Change 1, 8.2(a), p. 49

FAA JO 7900.5E with Change 1, 8.9, p. 51

FAA JO 7900.5E with Change 1, 9.13, p. 60

FAA JO 7900.5E with Change 1, 13.13(c)(6), p. 84

8. Match all listed precipitation types with it's partial description.
1. _____ Freezes on impact.
2. _____ Branched crystals.
3. _____ Unbranched crystals
4. _____ White opaque grains of ice.
5. _____ Transparent of translucent.

A. FZDZ

B. FZRA

C. SN

D. GS

E. IC

F. PL

VERIFIED

1-A and B; 2-C; 3-E; 4-D; 5-F.

Freezing drizzle and freezing rain freeze on impact; snow crystals are branched, ice crystals are unbranched, snow pellets are white opaque grains, and ice pellets are transparent or translucent. The source's wording 'Transparent of translucent' is retained as a typographical error; the paired description is still identifiable.

FAA JO 7900.5E with Change 1, 9.2(b); 9.2(c)(1)-(2), p. 53

FAA JO 7900.5E with Change 1, 9.2(c)(5)-(6), p. 54

9. At the time of the 1800 UTC report, there is 2 inches of frozen precipitation on the ground, consisting of 1 inch of small hail, topped by 1 inch of snow. This melts down to 0.19 inches water equivalent. What, if anything, should be reported for the 933RRR group?

A. 933019

B. 933002

C. 933190

D. No report required, as the measurement consisted partly of hail.

NEEDS REVIEW - NOT SCORED

For a station required to report this group, encode 933002: 0.19 inch rounds to 0.2 inch.

933RRR is in tenths of inches, not hundredths. The omission rule applies when the deposit consists entirely of hail, not partly of hail, so D's reason is incorrect. B is the supported encoding, but the question asks what must be reported without identifying whether the station has the Appendix F snow-reporting responsibility. Confirm station applicability before grading.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.51, p. 98

FAA JO 7900.5E with Change 1, Appendix F.1-F.3, p. 140

10. TRUE or FALSE: The descriptor shallow (MI), partial (PR), and patches (BC), shall only be coded with fog.

A. True

B. False

VERIFIED / Answer: A

True.

MI, PR, and BC are permitted only with FG, as explicitly specified in the descriptor coding rules.

FAA JO 7900.5E with Change 1, 13.13(c)(2), p. 84

11. Blowing snow is visible over 6/8's of the sky. However, only 3/8's of the blowing snow is hiding the sky. No clouds were visible. Encode the sky condition.

A. BKN000

B. SCT000

C. CLR

D. FEW000

VERIFIED / Answer: B

SCT000.

Count the three eighths of sky actually hidden by the surface-based obscuration, not the larger area across which particles can be seen. Three eighths is SCT, and a surface-based partial obscuration uses height 000. The associated obscuration remark would identify BLSN SCT000.

FAA JO 7900.5E with Change 1, 10.4(i), (m), p. 67

FAA JO 7900.5E with Change 1, Table 10-1, p. 69

FAA JO 7900.5E with Change 1, 10.10-10.11, p. 71

12. Between 16 and 17Z, 0.4" of snow has accumulated on the ground. Between 17 and 18Z, an additional .0.4" accumulates, for a total snow depth of 0.8". Which of the following groups should be transmitted at 18Z?

A. SNINCR 0/1 4/001

B. SNINCR 1/1 4/001

C. 4/001

D. None are required.

NEEDS REVIEW - NOT SCORED

If '.0.4' means 0.4 inch and this is an eligible snow-reporting station, report 4/001 without SNINCR.

The printed '.0.4' is malformed and is preserved. The stated 0.8-inch total rounds to 1 inch, but a 0.4-inch increase in the last hour is below the 0.5-inch SNINCR trigger even though the rounded total depth changes. 4/sss at 18Z depends on Appendix F applicability, which is unspecified. Choice C is conditional, not an unconditional grading key.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.42, p. 95

FAA JO 7900.5E with Change 1, 13.50, p. 98

FAA JO 7900.5E with Change 1, Appendix F.1-F.3, p. 140

13. Checking the snow depth for the 18Z metar, you note that half of the measurement area is covered with about 3 inches of snow, while the other half is bare. Which of the following groups would be required to be transmitted?

A. 933RRR

B. 4/sss

C. Both are transmitted.

D. Neither transmitted

NEEDS REVIEW - NOT SCORED

Average the bare and covered areas: approximately 1.5 inches, which encodes as 4/002 where snow-depth reporting is required. The 933RRR requirement needs clarification at this threshold.

Half bare and half at 3 inches is not an average of 3 inches and is not a trace solely because half is bare. The 933RRR rule says average snow depth of 2 inches or more; the given approximate average is 1.5 inches but rounds to a reportable 2. The checked text does not explicitly resolve applying this eligibility threshold before or after rounding. The station's Appendix F applicability and approved threshold interpretation must be confirmed; do not select B or C automatically.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.50-13.51, p. 98

FAA JO 7900.5E with Change 1, Appendix F.1-F.3, p. 140

NWS Snow Measurement Guidelines, Snow Depth: averaging exposed ground and whole-inch rounding, p. web page

14. TRUE or FALSE: For the purpose of depth measurement, the term snow shall include hail.

A. True

B. False

VERIFIED / Answer: A

True under the FAA snow-depth definition.

The FAA glossary explicitly includes hail among the frozen precipitation included in snow depth. This is a measurement definition, not a direction to code hail as SN in present weather. The 933RRR group has a separate exception for deposits consisting entirely of hail.

FAA JO 7900.5E with Change 1, Appendix G: Snow Depth, p. 151

FAA JO 7900.5E with Change 1, 13.51, p. 98

15. Convert the following wind speeds from knots to mph:

A. 50KTS_____MPH

B. 30KTS_____MPH.

C. 65KTS_____MPH

D. 45KTS_____MPH.

VERIFIED

A: 57.54 mph; B: 34.52 mph; C: 74.80 mph; D: 51.79 mph (rounded to two decimals).

Multiply each knots value by 1.15078 mph per knot. The unrounded results are 57.539, 34.5234, 74.8007, and 51.7851 mph. The prompt does not prescribe precision, so equivalent correctly rounded values should be accepted.

NWS Rapid City Recreation Forecasts, Sounding wind units: 1 knot = 1.15078 mph, p. web page

16. Which of the following does not meet the definition of a ceiling?

Select all that apply.

A. VV006

B. BKN000

C. BKN250

D. BKN000 (RMK: FG BKN000)

NEEDS REVIEW - NOT SCORED

D explicitly describes a surface-based partial obscuration, which is not a ceiling. B is ambiguous without identifying the nature of the layer.

VV006 is an indefinite ceiling and BKN250 is a cloud ceiling. D's FG BKN000 identifies a partial surface obscuration, which is excluded by the ceiling definition. However, BKN000 alone can also describe a non-surface-based cloud layer at 50 feet or less because those heights are coded 000. Thus B cannot reliably be selected or rejected without context; retain the question without an automatic key.

FAA JO 7900.5E with Change 1, 10.4(a), p. 66

FAA JO 7900.5E with Change 1, 10.8, p. 70

FAA JO 7900.5E with Change 1, 10.10, p. 71

FAA JO 7900.5E with Change 1, 13.14(c), (e), p. 86-87

17. Along with other conditions, ASOS will report blowing snow when the wind speed is greater than_____knots.

A. 10

B. 15

C. 20

D. 22

VERIFIED / Answer: D

22 knots.

The documented ASOS blowing-snow correction requires a 15-minute average wind speed greater than 22 knots, with temperature at or below 14 F, visibility below 7 SM, and the stated sky conditions. This is a system threshold, not the manual BLSN definition.

NOAA ASOS User's Guide (March 1998), 4.3.6, blowing-snow algorithm, p. 36

18. Under which of the following temp / visibility examples would ASOS report freezing fog?

A. 1C / 3/4SM

B. -1C / 1/2SM

C. 0C / 1/4SM

D. -1C / 3/4SM

NEEDS REVIEW - NOT SCORED

B is the only listed pair meeting the necessary temperature and visibility limits, but it is not enough by itself to establish an ASOS FZFG report.

The documented ASOS obscuration algorithm also checks dew-point depression to distinguish water-droplet obscurations from haze. FZFG requires fog conditions, visibility below 5/8 SM, and temperature below freezing. The dew point and sensor availability are absent, so -1 C and 1/2 SM alone do not prove that FZFG will be generated. Do not auto-grade this as an unconditional prediction.

NOAA ASOS User's Guide (March 1998), 4.3.11, p. 38

FAA JO 7900.5E with Change 1, 9.3(h), p. 55

19. On the Beaufort Scale, slight structural damage would correspond with wind speeds of_____knots

A. 34-40

B. 41-47

C. 48-55

VERIFIED / Answer: B

41-47 knots.

The FAA Beaufort table associates slight structural damage with 41-47 knots. The adjacent categories describe broken twigs at 34-40 knots and uprooted trees/considerable damage at 48-55 knots.

FAA JO 7900.5E with Change 1, 7.9; Table 7-1, p. 47

20. How would ASOS report a 2 minute average wind speed of 30 knots, rapidly fluctuating between 26 and 35 knots?

A. 30G35KT

B. 30KT

C. 26Q35KT

D. 26G35KT

NEEDS REVIEW - NOT SCORED

If 26-35 knots is the complete relevant peak/lull range and no earlier gust is retained, the speed portion is 30KT. The supplied two-minute information does not uniquely determine the ASOS gust report.

The peak-to-lull range is only 9 knots, not the FAA 10-knot gust criterion. The ASOS guide distinguishes capturing a gust candidate at least 5 knots above the mean from reporting it, which also depends on the previous 10 minutes. Earlier peaks/lulls and retained gusts are not provided. A is not justified merely because 35 exceeds the mean by 5. The 1998 guide describes 5-second sampling; later official documentation describes 3-second sonic peaks, so do not assume an installed algorithm from the quiz alone.

FAA JO 7900.5E with Change 1, 7.2(b), p. 45

NOAA ASOS User's Guide (March 1998), 3.2.2.2a, p. 16

NWS ASOS IFWS Algorithm Comparison and Technical Implementation Notice 02-30A, Comparison of IFWS Algorithm to Cup & Vane Algorithm; March 10, 2003 notice, p. unnumbered PDF pages 3-4

Spring 2024 Refresher Training

Answer review

20 questions | Original order retained

1. TRUE or FALSE: After an aircraft mishap, the ASOS/AWOS observations should be archived by either the on site observer or the AOMC.

A. True

B. False

NEEDS REVIEW - NOT SCORED

ASOS observations should be archived by the observer or through the AOMC; AWOS data follow the AWOS Technical Instruction Book.

The ASOS part is explicitly supported. The question combines ASOS and all AWOS systems, although section 4.3 gives AWOS a separate procedure. Do not grade this blanket true/false claim without identifying the AWOS type and applicable instructions.

FAA JO 7900.5E with Change 1, 4.3, p. 31

2. While evaluating the outdoor elements for the hourly metar, the sky is clear, but you note a well developed dust whirl south of the airport. What, if any entries, should be entered into the present weather and or manual remarks field?

A. Enter PO in the present weather field with any corresponding remarks.

B. No entry is required as PO cannot be entered into the present weather field.

C. Enter PO and any corresponding remarks in the remarks field.

D. Enter FC in the present weather field with any corresponding remarks

NEEDS REVIEW - NOT SCORED

Report the dust whirl using PO and its observed location; the field used depends on distance and the installed system's accepted entries.

PO is the manual METAR code for a well-developed dust/sand whirl, not FC. Section 13.13 places weather at or in the vicinity of the station in the body and distant weather in remarks. The question supplies neither distance nor a checked local OID acceptance table. National code validity does not prove an OID will accept PO; neither the no-report claim nor a universal remarks-only answer is established.

FAA JO 7900.5E with Change 1, 9.4(a), p. 56

FAA JO 7900.5E with Change 1, 13.13(a), (b), p. 83

FAA JO 7900.5E with Change 1, 13.13(f), p. 85

3. Evaluating the sky condition, you observe an ongoing thunderstorm just north of the station with bases at 2500 feet covering 2/8s of the sky, moving east. 1 cloud to ground lightning strike is noted in about two minutes time. A CB covering 1/8 of the sky, with bases at 4000 feet, is located more than 10 miles east of the station, and is also moving east, and you observe about 3 lightning strikes within the cloud, in about one minutes time. Encode the sky / and manual remarks field.

A. FEW025CB SCT040CB / OCNL LTGCG N FRQ LTGIC DSNT E TS N MOV E CB DSNT E MOV E

B. FEW025CB SCT040 / OCNL LTGCG N FRQ LTGIC DSNT E TS N MOV E CB N AND DSNT E MOV E

C. FEW025CB SCT040 / OCNL LTGCG N FRQ LTGIC DSNT E TS N MOV E CB DSNT E MOV E

D. FEW025CB SCT040 / OCNL LTGCG N FRQ LTGIC DSNT E TS CB N MOV E CB DSNT E MOV E

VERIFIED / Answer: C

FEW025CB SCT040 / OCNL LTGCG N FRQ LTGIC DSNT E TS N MOV E CB DSNT E MOV E

The layer summation is 2/8 then 3/8: FEW then SCT. CB is appended to the nearby 2500-foot layer, but not to the distant layer. One flash in two minutes is OCNL; three per minute is FRQ. Lightning precedes thunderstorm location and significant-cloud remarks. Do not redundantly report the north CB for a thunderstorm already reported, or insert CB into the TS location group.

FAA JO 7900.5E with Change 1, 10.7-10.8, p. 70

FAA JO 7900.5E with Change 1, 10.18, p. 73

FAA JO 7900.5E with Change 1, 13.28; Table 13-7, p. 91

FAA JO 7900.5E with Change 1, 13.31, p. 92

FAA JO 7900.5E with Change 1, 13.37, p. 94

4. In the event of an aircraft mishap, the person archiving shall wait at least _____ hour(s) after the mishap before archiving the 5 minute observations, and at a minimum, archive the data for a period from _____ hour(s) before to _____ hour(s) after the incident.

A. 1 / 1 / 1

B. 2 / 1 / 1

C. 1 / 2 / 2

D. 2 / 2 / 2

NEEDS REVIEW - NOT SCORED

The minimum retained interval is one hour before through one hour after the mishap. Option A reflects that interval, but the asserted mandatory wait is not stated in the checked current order.

Section 4.3 requires the complete one-hour-before/one-hour-after record and an AOMC request within ten hours. It does not prohibit taking an initial archive or notifying AOMC immediately. A final complete record cannot include the future hour until it exists, but that is not a mandate to delay all archiving. The local collection procedure is needed to grade the first blank as written.

FAA JO 7900.5E with Change 1, 4.3, p. 31

5. What would be the consequence, if any, of manually changing the altimeter setting on the ASOS 1-minute screen?

A. ASOS will revert back to the ASOS/AWOS generated altimeter setting after a metar transmits.

B. Report processing will be turned off by ASOS/AWOS, and must be turned back on by the observer.

C. Report processing for the altimeter is turned off by ASOS/AWOS, which can only turned back on by an NWS tech.

D. Report processing for the altimeter is turned off by ASOS/AWOS, which can only be turned back on by the AOMC.

NEEDS REVIEW - NOT SCORED

The legacy one-minute-screen warning corresponds to C; current guidance requires the appropriate ASOS/AWOS technician to restore disabled altimeter report processing.

The earlier JO 7900.5D appendix C.7(c) explicitly says editing an altimeter correction on the one-minute page turns off report processing and requires an NWS technician. Change 1 section 6.4 instead specifies the appropriate ASOS or AWOS technician, and 6.11 describes approved backup and technician reset/calibration. A legacy warning is not proof of every installed 2024 OID workflow; obtain the applicable operator guide/software version before grading the exact automatic consequence and NWS-only wording.

FAA JO 7900.5E with Change 1, 6.4(b), p. 40

FAA JO 7900.5E with Change 1, 6.11, p. 43

FAA JO 7900.5D (superseded; historical UI warning), Appendix C.7(c), p. 147

6. How are cloud layer heights reported by ASOS/AWOS?

A. Above ground level with respect to the station elevation.

B. Above ground level with respect to the field elevation.

C. Above ground level with respect to the ACU.

D. Above ground level with respect to the DCP.

VERIFIED / Answer: B

Above ground level with respect to field elevation.

The ASOS sky-condition algorithm specifies field elevation as the AGL reference. Station elevation can differ from field elevation; ACU and DCP are system components, not the reference datum.

NOAA ASOS User's Guide (March 1998), 4.1.2, p. 25

FAA JO 7900.5E with Change 1, 12.2(l), p. 77

7. The current 1-minute screen shows 3/4SM visibility and BR for present weather. The tower vis field is blank. Tower now enters 1/2SM in the tower vis field. What will ASOS/AWOS now show in the visibility / Present weather / remarks field?

A. 1/2SM / FG / SFC VIS 3/4

B. 3/4SM / BR / TWR VIS 1/2

C. 1/2SM / BR / SFC VIS 3/4

VERIFIED / Answer: C

1/2SM / BR / SFC VIS 3/4

The lower tower visibility is placed in the body and the surface visibility moves to remarks. ASOS still uses surface-sensor visibility, not tower visibility, to select BR versus FG. The guide's surface/tower examples explicitly demonstrate this behavior.

NOAA ASOS User's Guide (March 1998), 4.2.3, p. 30

NOAA ASOS User's Guide (March 1998), 5.3.4, Example 6, p. 44

8. You are observing the following sector visibilities: N-NE 1/2 NE-E 2 E-SE 1 3/4 SE-S 1/2 S-SW 1 SW-W 1 1/2 W-NW 3/4 NW-N 2. What is the prevailing visibility?

A. 2SM

B. 1SM

C. 1 1/2SM

D. 3/4SM

VERIFIED / Answer: C

1 1/2SM.

Four 45-degree sectors have visibility at least 1 1/2SM: NE-E, E-SE, SW-W and NW-N. Only three reach 1 3/4SM. The greatest distance equaled or exceeded over at least half the horizon is therefore 1 1/2SM.

FAA JO 7900.5E with Change 1, 8.2(a), p. 49

FAA JO 7900.5E with Change 1, 8.9, p. 51

9. ASOS/AWOS is reporting a temperature of 70F and a dew point of 66F. Surface visibility is 4SM. BR is reported in the present weather field. The dew point is suddenly set to missing. What will ASOS/AWOS now report for present weather?

A. BR

B. HZ

C. FG

D. No report.

VERIFIED / Answer: B

HZ.

When dew-point depression is unavailable, the documented ASOS obscuration algorithm uses visibility alone: at least 4SM but less than 7SM produces HZ. This is an automatic fallback, not a manual diagnosis that the particles actually changed to haze.

NOAA ASOS User's Guide (March 1998), 4.3.11, p. 38

10. Necessary conditions for ASOS/AWOS to report a totally obscured sky include a surface visibility of _____ mile or less and a high percentage of unknown hits at or below _____ feet agl.

A. 1/4 / 500

B. 1/2 / 1000

C. 3/4 / 1500

D. 1 / 2000

VERIFIED / Answer: D

1 mile or less; 2000 feet AGL.

The ASOS sky-condition algorithm states both necessary conditions for reporting total obscuration and formats qualifying unknown hits as vertical visibility.

NOAA ASOS User's Guide (March 1998), 4.1.2, p. 25

11. Which of the following manual remarks are correct and in the right order?

Select all that apply.

A. FRQ LTGCG TS SE MOV W

B. TS N MOV W CB N AND DSNT W MOV W

C. OCNL LTG ICCG SW

D. CB DSNT NW-W

E. TS ALQDS FRQ LTGIC

F. OCNL LTGIC N TS N MOV E CBMAM DSNT E

G. TCU W MOV S

NEEDS REVIEW - NOT SCORED

A and F follow the documented remark structures. D's NW-W range needs review against the required clockwise direction convention before assigning an exact accepted set.

The FAA explicitly illustrates combined lightning/TS remarks such as A; F follows lightning, TS, then separate CBMAM order. B redundantly describes the north CB associated with an already reported thunderstorm; C splits LTG from its type code; E reverses lightning/TS order, and G adds movement to the prescribed location-only TCU format. D prints NW-W, whereas the short northwest-to-west arc would normally be ordered W-NW under section 13.17(b)(5). With no observation defining the intended arc, do not silently reverse it or use the quiz markings to decide its validity.

FAA JO 7900.5E with Change 1, 13.17(b), p. 88

FAA JO 7900.5E with Change 1, 13.17(b)(6), p. 89

FAA JO 7900.5E with Change 1, 13.28, p. 91

FAA JO 7900.5E with Change 1, 13.31, p. 92

FAA JO 7900.5E with Change 1, 13.37, p. 94

FAA Flight Services, Weather and Chaff Services, 2-4-3; weather and obstructions phraseology, p. HTML

FAA JO 7900.5E with Change 1, 13.17(b)(5)-(6), p. 89

12. Which of the following would cause ASOS/AWOS to generate a speci?

Select all that apply.

A. Hail size changes from 1/8" (GS) to 1" (GR) in diameter.

B. Sky condition changes from OVC004 to BKN005.

C. ASOS/AWOS visibility changes from 1 3/4 SM to 1 SM.

D. Sky condition changes from BKN015 to OVC029.

E. RVR changes from 1800V2400FT to 1800V2200FT

NEEDS REVIEW - NOT SCORED

Under the national thresholds, B and E qualify: the ceiling rises to 500 feet and the ten-minute RVR maximum falls below 2400 feet.

A contains obsolete small-hail coding: Change 1 uses GR for hail of all sizes. A change of hail size alone is not the listed beginning/ending trigger. C falls to, not below, 1SM; D does not cross 1500 or 3000 feet. Additional instrument-approach thresholds or locally configured ASOS criteria are not supplied. Preserve the flawed GS option and do not automatically grade this historical system-behavior question.

FAA JO 7900.5E with Change 1, 3.11(b)-(h), p. 15

FAA JO 7900.5E with Change 1, 3.11(f)-(h), p. 16

FAA JO 7900.5E with Change 1, 13.13(d)(3), p. 85

FAA JO 7900.5E with Change 1, 13.32, p. 93

13. TRUE or FALSE: A variable ceiling at or above 3000 feet shall never be reported as variable in an observation.

A. True

B. False

VERIFIED / Answer: B

False. It may be reported when operationally significant.

Section 10.17 expressly allows variable ceilings at or above 3000 feet when considered operationally significant. The automated algorithm's normal below-3000-foot trigger does not prohibit an operationally significant manual remark.

FAA JO 7900.5E with Change 1, 10.17, p. 73

14. When visibility is varying rapidly during the time of observation, the reported prevailing visibility is:

A. The average of the lowest observed values.

B. The average of all observed values.

C. The highest observed value.

D. The lowest observed value.

VERIFIED / Answer: B

The average of all observed values.

Section 8.9 specifies the average of all observed values for a human prevailing-visibility evaluation when visibility is varying rapidly. This is not the ASOS sensor's separate ten-minute harmonic-mean algorithm.

FAA JO 7900.5E with Change 1, 8.9, p. 51

15. A thin layer of smoke covering less than 1/8th of the sky moves over the airport, with the base estimated at 1000 feet. What are the correct entries in the sky and or manual remarks field?

A. CLR with no remark

B. FEW010 with the remark: FU FEW010.

C. FEW010 with no remark.

D. CLR with the remark: FU OHD.

VERIFIED / Answer: B

FEW010 with the remark FU FEW010.

Any nonzero layer amount below 1/8 is reported as FEW. A smoke layer aloft is represented in sky condition and identified with FU plus the matching amount and height in remarks. Thin layers are not ignored merely because they are transparent.

FAA JO 7900.5E with Change 1, 6.9(b), p. 42

FAA JO 7900.5E with Change 1, 13.14; Table 13-5, p. 87

FAA JO 7900.5E with Change 1, 13.35, p. 93

16. Would it ever be possible for ASOS/AWOS to report a wind of: VRB03G14KT in a metar?

A. YES

B. NO

VERIFIED / Answer: A

Yes.

The documented ASOS gust algorithm can retain a qualifying 14-knot gust while the current two-minute mean has fallen to 3 knots. A variable direction at 6 knots or less is coded VRB. A low current mean does not by itself invalidate the retained gust.

NOAA ASOS User's Guide (March 1998), 3.2.2.2a-b, p. 16

17. ASOS/AWOS begins reporting BKN022 in the SKY field. A quick check of the ceilometer screen shows hits varying between 2000 and 2400 feet. What, if anything, will ASOS/AWOS report in the auto remark for SKY?

A. No report.

B. CIG 020V024

C. CIG 20V24

D. CIG 022V

VERIFIED / Answer: A

No variable-ceiling remark is required by the supplied values.

At an average ceiling above 2000 and below 3000 feet, the variability threshold is at least 500 feet. The given range is only 400 feet. The general ASOS algorithm checks for qualifying variable ceilings below 3000 feet; this scenario does not meet that criterion.

FAA JO 7900.5E with Change 1, 10.17; Table 10-5, p. 73

NOAA ASOS User's Guide (March 1998), 4.1.2, p. 25

18. If the ASOS/AWOS determined dew point temp exceeds the ambient temp by 2 degrees F, the dew point temp is:

A. Set to missing.

B. Set to equal the ambient temp.

VERIFIED / Answer: B

Set equal to the ambient temperature.

The ASOS quality-control rule sets dew point equal to ambient temperature for an excess of 2 degrees F or less. An excess greater than 2 degrees F is set to missing.

NOAA ASOS User's Guide (March 1998), 3.1.2, p. 12

19. Which of the following are valid ASOS/AWOS generated wind data?

Select all that apply.

A. VRB04G14KT

B. 27006KT 240V300

C. 18030Q60KT

D. VRB07KT

E. 270112KT

F. 27008KT 250V300

G. VRB06KT 200V260

VERIFIED / Answer: A, E

A and E.

A can combine a retained 14-knot gust with a 4-knot variable mean. E correctly uses three digits for a 112-knot speed. B and G incorrectly append a directional-range group at 6 knots; D uses VRB above 6 knots; F spans only 50 degrees, below the 60-degree variability threshold. C's Q is not the gust indicator G.

NOAA ASOS User's Guide (March 1998), 3.2.2.2a-b, p. 16

NOAA ASOS User's Guide (March 1998), 3.2.2.2b, p. 17

FAA JO 7900.5E with Change 1, 13.10, p. 81

20. An automated RVR system uses _____ sensor(s) to estimate the RVR value.

A. 1

B. 2

C. 3

D. 4

VERIFIED / Answer: C

Three sensor inputs: visibility/extinction, background luminance and runway-light intensity.

This counts the three kinds of input used to calculate RVR, not the number of RVR visibility sensors installed along a runway. The older FAA order states this directly; the current AIM describes the corresponding forward-scatter, ambient-light and runway-light-intensity inputs.

FAA JO 7900.5E with Change 1, 8.2(h)-(j), p. 49

FAA JO 7900.5D (superseded; sensor description), 9.3, p. 59

FAA Aeronautical Information Manual, 7-1-13(c), (i)-(j), p. HTML

Summer 2024 Refresher Training

Answer review

20 questions | Original order retained

1. You are observing a funnel cloud 5 miles southeast of the station, but movement cannot be determined. Movement shall be entered as:

A. MOVMT UNKN

B. MOVMT UNK

C. STNRY

D. MOV UNKN

VERIFIED / Answer: D

MOV UNKN.

The FAA funnel-cloud/tornado remark example explicitly uses MOV UNKN for movement that cannot be determined. STNRY would assert stationary motion, which is not established.

FAA JO 7900.5E with Change 1, 13.20, p. 89

2. The wind direction shall be considered variable, if during the 2 minute evaluation period, it varies by _____ degrees or more, when the average wind speed is greater than _____ knots.

A. 45 degrees / 6 knots

B. 60 degrees / 5 knots

C. 45 degrees / 7 knots

D. 60 degrees / 6 knots

VERIFIED / Answer: D

60 degrees; 6 knots.

A direction range of at least 60 degrees is reported using a separate variable-direction group when the two-minute mean exceeds 6 knots. At 6 knots or less, variable winds may instead be coded VRB; the question's speed threshold concerns the separate directional-range group.

FAA JO 7900.5E with Change 1, 7.6, p. 46

NOAA ASOS User's Guide (March 1998), 3.2.2.2b, p. 16

3. Which of the following remarks are valid?

Select all that apply.

A. OCNL LTG IC SW

B. OCNL LGTIC SW

C. OCNL LTGIC SW

D. CB SE MOVG W

E. CB SE MOV W

F. TS MOVD W

VERIFIED / Answer: C, E

C and E.

The lightning type IC is joined directly to LTG, and CB movement is coded MOV followed by direction. A introduces an extra space, B transposes LTG to LGT, D uses MOVG, and F uses MOVD and omits the thunderstorm location.

FAA JO 7900.5E with Change 1, 13.28, p. 91

FAA JO 7900.5E with Change 1, 13.31, p. 92

FAA JO 7900.5E with Change 1, 13.37, p. 94

4. The hourly rate of fall required for moderate rain (RA) is:

A. .10"/hr

B. .15" to .30"/hr

C. .11" to .30"/hr

D. .10" to .20"/hr

VERIFIED / Answer: C

0.11 to 0.30 inch per hour.

Table 9-4 defines moderate rain by this rate-of-fall range. The range is distinct from light rain up to 0.10 inch per hour and heavy rain above 0.30 inch per hour.

FAA JO 7900.5E with Change 1, 9.12; Table 9-4, p. 60

5. A hailstorm occurs between 17-18Z. At the time of the 18Z metar, hail 2" deep covers the area. Is the 933RRR group required at 18Z?

A. YES

B. NO

VERIFIED / Answer: B

No.

Although the 1800 UTC water-equivalent group normally applies at designated sites when average depth is at least 2 inches, section 13.51 explicitly says not to code it when the ground cover consists entirely of hail.

FAA JO 7900.5E with Change 1, 13.51, p. 98

6. You are observing an isolated TCU, covering less than 1/8th of the sky, based at 3000 feet, more than 10 miles west of the station, moving north. What would the correct entries in the sky and manual remarks field be?

A. FEW030TCU / TCU DSNT W

B. FEW030 / TCU DSNT W MOV N

C. CLR / TCU DSNT W

D. FEW030 / TCU DSNT W

VERIFIED / Answer: D

FEW030 / TCU DSNT W.

A nonzero layer smaller than 1/8 is FEW. Because the TCU is beyond 10SM, TCU is not appended to the sky layer; the distant cloud is identified in remarks. The prescribed TCU remark contains location, not movement. Options C and D continue on the second source page.

FAA JO 7900.5E with Change 1, 10.18, p. 73

FAA JO 7900.5E with Change 1, 13.14; Table 13-5, p. 87

FAA JO 7900.5E with Change 1, 13.37(a), p. 94

7. In checking the outside elements for the hourly metar, you observe the following sky condition: TCU just north and distant east. CB distant west and CBMAM distant NW. ACC distant south. How should the manual remarks field be encoded?

Select all that apply.

A. TCU N AND DSNT E CB DSNT W ACC DSNT S CBMAM DSNT NW

B. CB DSNT W CBMAM DSNT NW TCU N AND DSNT E ACC DSNT S

C. CB DSNT W AND NW TCU N AND DSNT E ACC DSNT S

D. CBMAM DSNT NW CB DSNT W TCU N AND DSNT E ACC DSNT S

NEEDS REVIEW - NOT SCORED

Report both CB and CBMAM, then TCU, then ACC. The national order does not establish a unique choice between B and D solely from their CB/CBMAM ordering.

Section 13.37 treats CB and CBMAM in the same significant-cloud paragraph, followed by TCU and ACC; section 13.17 says to follow paragraph order insofar as possible. B is a conventional sequence, but D preserves the same observations and paragraph order. A scatters the cloud classes out of that order, and C loses the explicit mammatus distinction. A local prescribed subtype ordering would be needed to score only B.

FAA JO 7900.5E with Change 1, 13.17(b)(6), p. 89

FAA JO 7900.5E with Change 1, 13.37, p. 94

8. During the past 10 minutes, the RVR has been reporting values ranging from 1200 to 4000 feet. What will ASOS input into the RVR field?

A. 1200FT

B. 4000FT

C. 1200V4000FT

D. 2600FT

VERIFIED / Answer: C

1200V4000FT.

The automated RVR report gives the ten-minute extremes when variability is present, not only one endpoint or their arithmetic mean. A complete METAR group also includes the designated runway identifier, which the question omits from all field-only options.

FAA JO 7900.5E with Change 1, 8.2(j), p. 50

FAA JO 7900.5E with Change 1, 13.12, p. 82

9. Which of the following would always meet special criteria?

A. The wind changes from 240 degrees at 10 knots to 280 degrees at 10 knots in less than 15 minutes.

B. The average 2 minute wind speed suddenly increases by 16 knots and is sustained at 20 knots for 3 minutes.

C. Rain intensity changes from light to moderate.

D. A thunderstorm is being reported in the present weather field and a second thunderstorm develops.

E. The one minute RVR reading changes from 1200 to 2200 feet.

F. None of the above.

VERIFIED / Answer: F

None of the above necessarily meets the national SPECI criteria.

A changes only 40 degrees, below 45. B remains below the 22-knot sustained squall threshold. C is ordinary rain, not freezing precipitation. D does not require a new SPECI when a thunderstorm is already reported. E neither crosses 2400 feet nor supplies the required ten-minute maximum. Additional local criteria could trigger a report but would not make these events always qualify nationally.

FAA JO 7900.5E with Change 1, 3.11(a)-(c), p. 15

FAA JO 7900.5E with Change 1, 3.11(e)-(g), p. 16

10. Light drizzle is occurring along with fog. Which of the following prevailing visibility values may not be reported?

A. 1/2SM

B. 0SM

C. 3/4SM

D. 1/4SM

VERIFIED / Answer: C

3/4SM is inconsistent with unqualified FG; BR would be used for a moisture obscuration at that visibility.

Unqualified fog requires prevailing visibility below 5/8SM. In mixed drizzle and fog, poor total visibility alone does not require increasing drizzle intensity: section 9.13 prevents assigning more intensity than the drizzle alone would warrant. Thus light drizzle may coexist with very low visibility caused by fog. Zero is a permitted manual visibility value, even though unattended ASOS uses M1/4SM.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 13.13(e)(1)-(2), p. 85

FAA JO 7900.5E with Change 1, 8.4; Table 8-1, p. 50

11. The average 2 minute wind suddenly increases from 270 degrees at 15 knots to 30 knots with gusts to 45 knots. These conditions persist for 2 minutes. What will ASOS input into the body of the pending observation?

A. 27030Q45KT

B. 27030G45KT

C. 27030G45KT (with SQ in present weather)

D. 27015G45KT

VERIFIED / Answer: B

27030G45KT.

The current mean is 30 knots and the gust is 45 knots, encoded with G. The mean increase is only 15 knots, not the 16 required for the documented ASOS squall test; the gust peak itself does not establish that the mean-wind squall criterion was met.

NOAA ASOS User's Guide (March 1998), 3.2.2.2a, p. 16

NOAA ASOS User's Guide (March 1998), 3.2.2.2c, p. 17

FAA JO 7900.5E with Change 1, 13.10, p. 81

12. A substantial part of the station is covered by fog. However, you determine that the prevailing surface visibility is 10SM. Which present weather type listed below would fit this scenario?

A. MIFG

B. BCFG

C. VCFG

D. PRFG

E. FG

F. BR

NEEDS REVIEW - NOT SCORED

PRFG fits if the substantial fog-covered portion reaches at least 6 feet and visibility within it is below 5/8SM; the stem does not supply those facts.

The 10SM prevailing visibility does not prohibit PRFG, BCFG or MIFG. The substantial-area description points toward PRFG, but without vertical extent it does not exclude shallow MIFG, and it does not say whether the coverage is patchy. A precise fog distribution and height are required to distinguish these options. Unqualified FG and BR do not fit 10SM; VCFG denotes fog away from the observation point.

FAA JO 7900.5E with Change 1, 13.13(c)(3)-(5), p. 84

FAA JO 7900.5E with Change 1, 13.13(e)(2), p. 85

13. A thunderstorm is located overhead thru east of the station. A light shower of small hail the size of B-B's is falling, but not reducing visibility. What entry would the present weather field accept?

A. -TSGS

B. TSGS

C. -TSSHGS

D. TSSHGS

NEEDS REVIEW - NOT SCORED

Under JO 7900.5E with Change 1, hail including small hail is GR; a thunderstorm with hail is TSGR, without an intensity qualifier.

None of the supplied choices uses GR. The choices reflect an older small-hail/GS convention, while the checked order reserves GS for snow pellets and codes all hail as GR. It also forbids combining TS and SH. Exact acceptance of old GS forms is software-dependent and cannot establish present-day correctness. Preserve all four choices; do not silently replace them with TSGR.

FAA JO 7900.5E with Change 1, 9.12, p. 59

FAA JO 7900.5E with Change 1, 13.13(b)-(d), p. 83

FAA JO 7900.5E with Change 1, 13.13(c)(8), p. 84

FAA JO 7900.5E with Change 1, 13.13(d)(3), p. 85

FAA JO 7900.5E with Change 1, 13.32, p. 93

14. 1/8th coverage of TCU with bases at 4000', is located just sw-nw of the station. 2/8's coverage of CB with bases estimated at 2500' is more than 10 miles north. A layer of CBMAM, based at 12000', covering less than 1/8th of the sky, is overhead. How would you encode the SKY field?

A. FEW025 SCT040TCU SCT120CB

B. FEW025 SCT040TCU

C. FEW025CB SCT040TCU SCT120CB

D. FEW025 SCT040TCU SCT120

VERIFIED / Answer: A

FEW025 SCT040TCU SCT120CB.

The cumulative layer amounts are 2/8, 3/8 and still within SCT after the small upper layer. The distant north CB is not appended to its sky layer, while the nearby TCU and overhead cumulonimbus mammatus are identified as TCU and CB in their corresponding layers. CBMAM is described in remarks, not as a separate body suffix.

FAA JO 7900.5E with Change 1, 10.7-10.8, p. 70

FAA JO 7900.5E with Change 1, 10.18, p. 73

FAA JO 7900.5E with Change 1, 13.14, p. 87

FAA JO 7900.5E with Change 1, 13.37, p. 94

15. Which of the following are correct manual remarks?

Select all that apply.

A. TS CB OHD MOV E

B. CBMAM S MOV E

C. OCNL LTGIC TS W MOV E

D. TS OHD MOV S OCNL LTGIC

E. TCU E MOV S

F. FRQ LGTIC DSNT E

VERIFIED / Answer: B, C

B and C.

B follows the CBMAM location/movement format. C follows the combined lightning and thunderstorm-location structure shown by FAA phraseology examples, with lightning preceding TS. A improperly inserts CB into the TS location remark. D reverses the usual remark order. TCU remarks do not prescribe movement. F misspells LTG as LGT.

FAA JO 7900.5E with Change 1, 13.17(b)(6), p. 89

FAA JO 7900.5E with Change 1, 13.28, p. 91

FAA JO 7900.5E with Change 1, 13.31, p. 92

FAA JO 7900.5E with Change 1, 13.37, p. 94

FAA Flight Services, Weather and Chaff Services, 2-4-3; weather and obstructions phraseology, p. HTML

16. The observed prevailing visibility and present weather at 1553 is: 1 1/2SM +RA. Which of the following changes in prevailing visibility would require a special?

A. 1SM

B. 1 1/4SM

C. 1 3/4SM

D. 2SM

VERIFIED / Answer: D

2SM meets the national visibility SPECI threshold.

Improvement from below 2SM to 2SM meets the threshold. Deterioration to exactly 1SM does not meet the standard requirement to decrease below 1SM, and the two intermediate choices cross no listed threshold. This identifies the national threshold; an additional published instrument-approach minimum or local criterion must be checked operationally.

FAA JO 7900.5E with Change 1, 3.11(b), p. 15

17. Put the following remarks in their correct numerical order:
1. _____
2. _____
3. _____
4. _____
5. _____

A. OCNL LTGIC DSNT W

B. VIS NE 2 1/2

C. CB DSNT W

D. VIRGA

E. BKN014 V OVC

VERIFIED

1. B; 2. A; 3. D; 4. E; 5. C.

The national sequence is sector visibility, lightning, virga, variable sky condition, then significant cloud type. The blank answer positions are retained for practice.

FAA JO 7900.5E with Change 1, 13.17(b)(6), p. 89

FAA JO 7900.5E with Change 1, 13.26, p. 90

FAA JO 7900.5E with Change 1, 13.28, p. 91

FAA JO 7900.5E with Change 1, 13.33; 13.36, p. 93

FAA JO 7900.5E with Change 1, 13.37, p. 94

18. Which of the following will ASOS not accept in the present weather field?

Select all that apply.

A. PRFG

B. VCPO

C. VCBLDU

D. BLPY

E. DRDU

F. PO

NEEDS REVIEW - NOT SCORED

The listed forms are recognized manual METAR phenomena/combinations; determine OID rejection behavior from the installed ASOS operator documentation.

JO 7900.5E permits PRFG, PO, VCPO, VCBLDU, BLPY and DRDU under their applicable conditions. That code table is not an OID input-validation table. The supplied quiz references a local station OID, but its software/version and acceptance rules were not supplied. Do not infer the rejected set from handwriting or treat a software limitation as invalid manual coding.

FAA JO 7900.5E with Change 1, 13.13(b), p. 83

FAA JO 7900.5E with Change 1, 13.13(c), p. 84

FAA JO 7900.5E with Change 1, 13.13(e)-(f), p. 85

NOAA ASOS User's Guide (March 1998), 5.3.1, p. 42

19. Which of the following phenomena require a prevailing visibility of less than 5/16SM?

Select all that apply.

A. SS

B. +DS

C. +SS

D. DS

VERIFIED / Answer: B, C

+DS and +SS.

Heavy duststorm and heavy sandstorm require visibility below 5/16SM. Without the plus sign, DS and SS apply from 5/16SM through 5/8SM.

FAA JO 7900.5E with Change 1, 9.4(f)-(g), p. 56

20. Haze particles may be composed of:

A. Dust.

B. Salt

C. Pollen

D. All apply.

VERIFIED / Answer: D

All apply.

Section 9.3(i) explicitly lists dust, salt and pollen among the possible constituents of haze.

FAA JO 7900.5E with Change 1, 9.3(i), p. 55

Fall 2024 Refresher Training

Answer review

20 questions | Original order retained

1. Unless considered operationally significant, which obscuration do you not report unless it reduces visibility to <7SM?

a. VA

b. MIFG

c. BLSN

d. BCFG

VERIFIED / Answer: c

BLSN.

Blowing snow follows the less-than-7SM or operational-significance rule. Volcanic ash is reported whenever observed, and shallow fog and fog patches can be reported with prevailing visibility of 7SM or more.

FAA JO 7900.5E with Change 1, 13.13(a)(2), p. 83

2. Which is not included as a term for "snow" as it pertains to snow depth measurement?

a. Pack ice

b. Sheet ice

c. Glaze

d. Ice pellets

VERIFIED / Answer: a

Pack ice.

The snow-depth definition includes frozen precipitation on the ground, specifically ice pellets, glaze, hail and sheet ice formed from freezing precipitation. It does not list pack ice, the sea-ice category, as a snow-depth component.

FAA JO 7900.5E with Change 1, Appendix G, Snow Depth, p. 151

3. Which will you enter for your snow increasing rapidly remark if you have had a snow depth increase of 2 inches within the past hour due to new snowfall and your total snow depth on the ground has increased from 6 to 8 inches?

a. SNINCR 2

b. SNINCR 8

c. SNICNR 2/8

d. SNINCR 6/8

NEEDS REVIEW - NOT SCORED

The supported remark is SNINCR 2/8; no option prints it correctly.

The group requires the increase in the past hour followed by the current total depth. Option c contains the printed transposition SNICNR, not SNINCR. The typo was confirmed in an enlarged rendering and is preserved. Options a and b omit a required value; d uses the previous depth rather than the hourly increase.

FAA JO 7900.5E with Change 1, 13.42, p. 95

4. The 3-hourly pressure tendency group shall be coded as _____ when the atmospheric pressure is lower than 3 hours ago and has been steadily decreasing, with a change of .015 inches of mercury.

a. 52005

b. 57045

c. 47005

d. 57005

e. none of the above

VERIFIED / Answer: d

57005.

The group starts with 5; steadily decreasing pressure has characteristic 7. A change of 0.015 inHg is approximately 0.508 hPa, rounded to 0.5 hPa and encoded 005. This explains an automated additive group; Change 1 does not authorize an observer to manually augment pressure tendency.

FAA JO 7900.5E with Change 1, 13.56, p. 99

FAA JO 7900.5E with Change 1, Table 13-9, continued, p. 100

FAA JO 7900.5E with Change 1, 13.44, p. 95

5. If both -SN and -FZRA are occurring and detected by ASOS, what will ASOS report for present weather?

a. -SN.

b. -FZRA.

c. -SN FZRA.

d. -FZRA SN.

VERIFIED / Answer: a

-SN.

The documented ASOS algorithm selects the higher-priority frozen type when its precipitation identifier reports snow, even when the freezing-rain sensor also detects accretion. Table 6 explicitly maps FZRA plus -SN to -SN. This is automatic selection, not a rule forbidding manual reporting of observed mixed precipitation.

NOAA ASOS User's Guide (March 1998), 4.3.9, p. 37

NOAA ASOS User's Guide (March 1998), 4.3.10; Table 6, p. 38

FAA JO 7900.5E with Change 1, 13.13(d)(1), p. 84

6. Which entry best describes what the observer should report in sky condition and remarks if the surface-based obscuration above the ASOS has dissipated to less than 8/8 coverage and no signal returns are detected on the Cloud Height Indicator. However, the sky continues to be obscured to 5/8 coverage along the surface horizon?

a. CLR (no remark required)

b. VV/// CIG 000V001

c. VV000 BKN V OVC

d. BKN000 BR BKN000

NEEDS REVIEW - NOT SCORED

Report BKN000 and an obscuration remark identifying the actual phenomenon, for example FG BKN000 if fog causes it.

Five-eighths hidden sky is a partial surface-based obscuration, so neither CLR nor vertical visibility is appropriate. Choice d gets BKN000 right but assumes the obscuring phenomenon is BR. The question never identifies it or gives surface visibility to distinguish mist from fog; the national rule requires the actual weather symbol. No complete option can be verified without that missing fact.

FAA JO 7900.5E with Change 1, 10.10, p. 71

FAA JO 7900.5E with Change 1, 13.14(c), p. 86

FAA JO 7900.5E with Change 1, 13.35, p. 93

7. The ASOS has a partial malfunction and you must augment present weather manually. During the past hour the only weather observed has been minute water particles that appear to float in the air. A thin coat of ice is developing on surfaces. What should you enter for present weather given the following conditions reported in the METAR?

METAR KXYZ 270754Z 31006KT 1/2 ____ OVC007 M01/M03 A2984 RMK A02 SLP096 P0000 T10111031

a. FZFG

b. -FZDZ

c. FZDZ

d. -FZRA

NEEDS REVIEW - NOT SCORED

If the particles are falling freezing drizzle alone at 1/2SM, report FZDZ. If they are suspended fog droplets at the stated subfreezing temperature, report FZFG.

The wording says only that minute particles appear to float, not whether they fall to the ground, the distinction between drizzle and fog in sections 9.2 and 9.3. Ice on surfaces does not by itself resolve it. The printed METAR also omits SM after 1/2 and prints A02 rather than AO2; those defects are preserved. The missing observation must be established before selecting freezing drizzle versus freezing fog.

FAA JO 7900.5E with Change 1, 9.2(a)-(b), p. 53

FAA JO 7900.5E with Change 1, 9.3(g)-(h), p. 55

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.16(a), p. 61

8. What is the major disadvantage of the ASOS visibility sensor?

a. Reporting visibility values too low due to backscattering during "airlight" conditions.

b. Small sample volume places undue emphasis on small-scale atmospheric differences.

c. Attenuation caused by light absorption of atmospheric contaminants.

d. Inconsistency and variation due to sun angle effect.

VERIFIED / Answer: b

The small sample volume can overemphasize small-scale atmospheric differences.

The ASOS guide identifies the 0.75-cubic-foot sampling volume as the major disadvantage of forward-scatter visibility measurement. Even averaging samples for ten minutes may not represent a heterogeneous airport. Its discussion distinguishes observer airlight effects from this sensor limitation.

NOAA ASOS User's Guide (March 1998), 4.2.4, p. 31

9. What may cause the ASOS to report an abrupt change in visibility value near sunrise?

a. Sunlight increases backscatter detection of the visibility sensor.

b. Sunlight decreases backscatter detection of the visibility sensor.

c. Sunlight causes a shift in the extinction coefficient calculation from night to day.

d. Sunlight causes a forward scatter of transmissivity in the visibility sensor.

NEEDS REVIEW - NOT SCORED

A photocell switches between nighttime and daytime visibility equations; for the same extinction coefficient those equations produce different visibility estimates.

Choice c is evidently aimed at this mechanism but says the extinction-coefficient calculation changes. The guide says it is the conversion from extinction coefficient to visibility that changes, and explicitly discusses the same coefficient yielding different day/night visibility. Preserve the flawed wording rather than treating c as an exact verified statement. The other choices do not describe the documented day/night algorithm switch.

NOAA ASOS User's Guide (March 1998), 4.2.1, p. 28

NOAA ASOS User's Guide (March 1998), 4.2.3, p. 29

10. At what temperature value will ASOS begin to report freezing rain if detected?

a. <= 32 degrees F

b. <= 34 degrees F

c. <= 36 degrees F

d. <= 38 degrees F

VERIFIED / Answer: c

At 36 degrees F or below in the guide's whole-degree description.

The documented algorithm requires a current five-minute ambient temperature below 37 degrees F plus qualifying ice-accretion tests. The same section describes reporting freezing rain at 36 degrees F or below. This is a sensor/algorithm threshold, not the general thermodynamic definition of freezing rain.

NOAA ASOS User's Guide (March 1998), 4.3.9, p. 37

11. Which obscuration will ASOS most likely report for present weather in this METAR?

METAR KXYZ 230554Z 34023G33KT 1/2 ____ SCT110 M11/M14 A2984 RMK A02 SLP096 4/002 57032

a. HZ.

b. FG

c. FZFG.

d. BLSN.

NEEDS REVIEW - NOT SCORED

BLSN is plausible under the guide's separate blowing-snow algorithm if the LEDWI reports rain and the qualifying fifteen-minute conditions persist. Without that trigger, the dew-point-based obscuration algorithm could instead produce HZ.

Section 4.3.6 evaluates a rain report from the LEDWI with other sensors: visibility below 7SM, ambient temperature at or below 14 degrees F, non-overcast sky or a ceiling above 10000 feet, and wind above 22 knots. The displayed -11 degrees C (12.2 degrees F), 23-knot mean and SCT110 fit the snapshot thresholds, but the stem does not supply the LEDWI input or the fifteen-minute temperature/wind averages. Section 4.3.11 alone would suggest HZ for a 3-degree-C dew-point depression and no precipitation; it must not be used to erase the separate BLSN algorithm. The scan also omits SM and prints A02 rather than AO2. Preserve the malformed report and withhold an unconditional answer.

NOAA ASOS User's Guide (March 1998), 4.3.6, Blowing Snow Algorithm, p. 36

NOAA ASOS User's Guide (March 1998), 4.3.11, p. 38

NOAA ASOS User's Guide (March 1998), 5.3.4, Example 5, p. 44

FAA JO 7900.5E with Change 1, 13.11, p. 81

12. What will the ASOS Cloud Height Indicator most likely display on the OID screen after analyzing only "unknown hits" that cannot be processed as definite cloud returns?

a. "M" for missing cloud cover.

b. "CLR" for no clouds detected.

c. "VV" for vertical visibility.

d. "///" for surface based obscuration.

VERIFIED / Answer: c

VV, vertical visibility.

The guide says broadened returns classified as unknown hits are processed as vertical visibility and stored in separate VV bins. A final total-obscuration METAR report still requires the sky-condition algorithm's visibility and low-level-hit conditions; the answer identifies the unknown-return interpretation, not an unconditional promise that every unknown hit yields a published VV ceiling.

NOAA ASOS User's Guide (March 1998), 4.1.1, p. 24

NOAA ASOS User's Guide (March 1998), 4.1.2, p. 25

13. What should you augment into ASOS for present weather if the prevailing visibility is 7SM, however there are isolated visibility markers within 1/2SM in all sectors that are obscured by fog?

a. VCFG

b. BCFG

c. MIFG

d. PRFG

NEEDS REVIEW - NOT SCORED

BCFG is the likely intended choice for local fog patches, provided the patches reach at least 6 feet; MIFG must be considered if they are shallow.

Fog obscuring isolated nearby markers with good visibility elsewhere points to patches rather than a substantial continuous partial-fog area. However, the stem never gives fog height or the elevation of the markers. BCFG requires fog at least 6 feet deep and apparent visibility within it below 5/8SM; MIFG is limited below that height with better visibility above. A 7SM prevailing value alone cannot distinguish those cases. Verify the vertical extent before grading.

FAA JO 7900.5E with Change 1, 13.13(c)(3)-(5), p. 84

FAA JO 7900.5E with Change 1, 13.13(e)(2), p. 85

14. Within the continental United States what standard time is used to record snow depth for daily summary climatological data at all stations operating 24-hours?

a. 0000 LST

b. 0000 UTC

c. 0600 UTC

d. 1200 UTC

NEEDS REVIEW - NOT SCORED

The historical daily-summary snow-depth convention is 1200 UTC, option d; confirm the station's current reporting program before making this an all-stations requirement.

JO 7900.5E retains the 1200 UTC instruction for column 61 but labels that subsection Not Applicable. Its current 4/sss rule instead specifies the four main synoptic times at designated Appendix F sites. Thus the legacy daily-summary answer is documented, but the question's universal present-tense requirement is not established for every 24-hour ASOS site. Do not confuse this with the 1800 UTC water-equivalent group.

FAA JO 7900.5E with Change 1, 14.10(gg), marked Not Applicable, p. 109

FAA JO 7900.5E with Change 1, 13.50-13.51, p. 98

NWS Training Guide in Surface Weather Observations (historical manual forms), Figure 6-10, Summary of Day column 61, p. 6-13

15. What would be the correct prevailing surface visibility and remarks if you observed the following sector visibility conditions?

N-NE: 1SM NE-E: 2SM E-SE: 3SM SE-S: 4SM S-W: 5SM W-N: 4SM

a. 4 VIS N-NE 1 NE-E 2 E-SE 3

b. 4 VIS N-NE 1 NE-E 2

c. 3 VIS N-NE 1 NE-E 2

d. 3 VIS 1V5

VERIFIED / Answer: b

4SM, with VIS N-NE 1 NE-E 2.

Use angular coverage, not a count of the unequal sectors. At least 4SM covers SE-S (45 degrees), S-W (90) and W-N (90), totaling 225 degrees. Only 90 degrees reaches 5SM. The two sectors below 3SM require remarks; the 3SM sector does not routinely require one absent operational significance. These are spatial sector differences, not time-varying visibility.

FAA JO 7900.5E with Change 1, 8.2(a)-(b), p. 49

FAA JO 7900.5E with Change 1, 8.9-8.10, p. 51

FAA JO 7900.5E with Change 1, 13.26, p. 90

16. Which of the following ceiling conditions would require a variable ceiling height remark if the height increases and decreases rapidly during the period of observation?

a. Average height of 3,000ft with variations from 2,500 to 3,500.

b. Average height of 2,500ft with variations from 2,300 to 2,700.

c. Average height of 1,500ft with variations from 1,400 to 1,700

d. Average height of 1,000ft with variations from 900 to 1,100.

VERIFIED / Answer: d

The 1000-foot average with a 900-to-1100-foot range.

At or below 1000 feet, a 200-foot range qualifies. At 1500 feet, 400 feet is required, so a 300-foot range does not. At 2500 feet, 500 feet is required, so a 400-foot range does not. At or above 3000 feet, a variable-ceiling remark is permitted only when operationally significant, not automatically required by this table.

FAA JO 7900.5E with Change 1, 10.17; Table 10-5, p. 73

17. Which stations are always required to augment visibility values below M1/4SM when they are observed, regardless of operational significance?

a. Category A stations only.

b. Category A and B stations.

c. No stations are required due to ASOS software limitations.

d. All stations are always required to augment these values when observed.

NEEDS REVIEW - NOT SCORED

Service Level A is the level associated with the additional 1/8, 1/16 and 0 visibility increments, but the question's unconditional wording requires review.

Table 8-1 allows these manual increments to meet service-level requirements. Table D-1 lists Level A with connected ten-minute longline RVR or additional visibility increments, so it does not support an unqualified all-Level-A, always requirement without the applicable station/RVR configuration. M1/4SM itself means less than 1/4SM; it is not a numerical threshold below which another range begins. The intended distinction is plausibly option a, but verify the local service standard before scoring it.

FAA JO 7900.5E with Change 1, 8.4; Table 8-1, p. 50

FAA JO 7900.5E with Change 1, Appendix D, Table D-1, p. 129

18. What should be encoded on ASOS for present weather when wind lifts snow to a height of 6 feet and restricts visibility to 1/4SM or less?

a. DRSN

b. -BLSN

c. BLSN

d. +BLSN

VERIFIED / Answer: c

BLSN, without an intensity qualifier.

Blowing snow consists of snow raised to 6 feet or more that restricts visibility. DRSN applies below 6 feet. The coding rules prohibit assigning an intensity to BLSN even when the visibility is very low.

FAA JO 7900.5E with Change 1, 9.3(c), p. 55

FAA JO 7900.5E with Change 1, 13.13(b)(1), p. 83

FAA JO 7900.5E with Change 1, 13.13(c)(6), p. 84

19. What would be the correct prevailing surface visibility and remarks if the following conditions were observed during the evaluation period?

Surface visibility in all sectors was determined to be increasing and decreasing rapidly between 2SM and 4SM but tower determines that their visibility is a consistent 4SM.

a. 3 VIS 2V4

b. 3 TWR VIS 4 VIS 2V4

c. 3 VIS 2V4 TWR VIS 4

d. 3 TWR VIS 4

NEEDS REVIEW - NOT SCORED

If the actual average of the observed surface values is 3SM, the routine answer is 3SM with TWR VIS 4, option d.

For rapidly varying visibility, section 8.9 uses the average of all observed values, not automatically the midpoint of the extremes. The stem gives only 2SM and 4SM endpoints, so it does not establish an average of exactly 3SM. With an actual 3SM average, the usual variable-visibility criterion of average less than 3SM is not met; the lower surface value is in the body and tower visibility is a remark. If the true average were below 3SM, a variability remark would be required and none of the supplied body values would match. Supply the actual average or equal weighting before grading.

FAA JO 7900.5E with Change 1, 8.3, p. 50

FAA JO 7900.5E with Change 1, 8.9; 8.11, p. 51

FAA JO 7900.5E with Change 1, 13.24-13.25, p. 90

20. You observe the sky condition to be overcast by a white opaque layer that is visible through a layer of transparent gray patches. These patches cover more than half of the sky and appear to move rapidly below the white overcast layer. The ASOS reports a single layer in sky condition of OVC008 from a field elevation of 300ft. The ATC tower relays a pilot report they just received from a departing aircraft. It states the lowest clouds observed were 800ft mean sea level. What should you carry for sky condition?

a. OVC005

b. BKN005 OVC008

c. OVC008

d. BKN008 OVC011

VERIFIED / Answer: b

BKN005 OVC008.

Treat the transparent lower cloud layer as opaque for reporting its coverage; more than half but less than complete sky cover is BKN. Convert the pilot's lowest cloud base from 800 feet MSL to 500 feet AGL using the 300-foot field elevation. The ASOS OVC008 is already AGL and remains the upper layer; do not add field elevation to it.

FAA JO 7900.5E with Change 1, 6.9(b), p. 42

FAA JO 7900.5E with Change 1, 10.9, p. 71

FAA JO 7900.5E with Change 1, 10.16(a), p. 72

NOAA ASOS User's Guide (March 1998), 4.1.2, p. 25

Winter 2025 Refresher Training

Answer review

20 questions | Original order retained

1. For the 1800Z metar, you determine that the depth of ice and snow is 1.9". 0.5" consists of ice from a freezing rain event and 1.4" consists of a recent snowfall. What would you enter for the 4/sss group?

A. 4/002

B. 4/001

C. 4/019

D. No entry, as depth is < 2" at 18Z

VERIFIED / Answer: A

4/002.

The depth includes the glaze as well as snow. The total 1.9 inches rounds to 2 whole inches. The 2-inch threshold applies to water equivalent (933RRR), not the 4/sss depth group. This assumes a station authorized to report snow depth.

FAA JO 7900.5E with Change 1, 13.50; 13.51, p. 98

FAA JO 7900.5E with Change 1, Appendix G, Snow Depth, p. 151

2. In checking the outside elements for the hourly metar, you note that blowing snow is reducing the prevailing surface visibility to 3SM. You also observe light snow falling. The present weather field would be coded as:

A. -BLSN SN

B. BLSN -SN

C. -SN BLSN

D. BLSN

VERIFIED / Answer: C

-SN BLSN.

Report both observed falling snow and blowing snow, with precipitation before the obscuration. BLSN does not take an intensity sign; the minus sign belongs to SN.

FAA JO 7900.5E with Change 1, 13.13a(4), b(1), c(6), p. 83-84

3. "Raised by wind to less than 6 feet above the ground", describes which of the following weather phenomena:

Select all that apply.

A. MIFG

B. DRSN

C. DRDU

D. DRSA

E. BR

F. BLPY

VERIFIED / Answer: B, C, D

DRSN, DRDU, and DRSA.

DR applies to wind-raised snow, dust, or sand below 6 feet. Shallow fog is not wind-raised drifting material; blowing spray is at least 6 feet high.

FAA JO 7900.5E with Change 1, 13.13c(6), p. 84

4. A thunderstorm is occurring at the station. A moderate rain shower and light snow is noted. What would be the correct entry in the ASOS present weather field?

A. -TSSNRA

B. TSRASN

C. TSSNRA

D. -TSRASN

VERIFIED / Answer: B

TSRASN.

Use TS rather than SH for precipitation with a thunderstorm. Rain is predominant over the light snow and therefore precedes SN. The stated moderate precipitation has no intensity sign.

FAA JO 7900.5E with Change 1, 13.13c(8), d(1), p. 84

5. Which of the following would cause ASOS to generate a speci:

Select all that apply.

A. -FZDZ changes to -FZRA

B. A smoke layer at 900 feet entered into the sky field

C. PL changes to -PL

D. Ceiling changes from BKN004 to BKN005

NEEDS REVIEW - NOT SCORED

Ice-pellet intensity change and a ceiling rising from 400 to 500 feet meet FAA SPECI criteria. A newly appearing layer below 1,000 feet also qualifies if no layer aloft below 1,000 feet was in the preceding report.

Do not automatically grade the full choice set. B omits the preceding sky report needed by 3.11i. A changes freezing-precipitation type but not intensity; the cited FAA wording alone does not establish how the installed ASOS software treats that edit. The operational requirement to issue a SPECI is not proof that every OID edit automatically generates one. Check the applicable ASOS software/OID procedures.

FAA JO 7900.5E with Change 1, 3.11f(2)-(3), h(4), i, p. 16

NOAA ASOS User's Guide (March 1998), 4.3.9, p. 37

6. Snow pellets are falling, reducing the prevailing visibility to 3SM. What will ASOS report for present weather?

A. -SN

B. BR

C. FZRA

D. RA

VERIFIED / Answer: A

-SN under the documented ASOS precipitation-identification algorithm.

The 1998 guide states that snow pellets are detected as snow. Its snow-intensity limiter does not permit moderate snow above 1/2 mile or heavy snow above 1/4 mile; at 3SM the precipitation answer is -SN. This describes the guide's unaugmented sensor behavior, not the correct manual identification of snow pellets or all possible accompanying obscurations.

NOAA ASOS User's Guide (March 1998), 4.3.5; 4.3.7; Table 7, p. 35-38

7. In preparation for the 1800Z metar, you note that 2.1 inches of snow is on the ground. You melt it down and determine the water equivalent is 0.22 inches. How is this encoded in the 933RRR group?

A. 933022

B. 933002

C. 933220

D. 933000

VERIFIED / Answer: B

933002.

The 1800 UTC group is applicable when average snow depth is at least 2 inches at an authorized station. Water equivalent is encoded in tenths, not hundredths, of an inch: 0.22 rounds to 0.2, encoded 002.

FAA JO 7900.5E with Change 1, 13.51, p. 98

8. What is the correct order in remarks for the SNINCR, 933RRR, and 4/sss groups?

A. SNINCR 4/sss 933RRR

B. 933RRR SNINCR 4/sss

C. 4/sss SNINCR 933RRR

D. SNINCR 933RRR 4/sss

VERIFIED / Answer: A

SNINCR, then 4/sss, then 933RRR.

SNINCR is in the operational remarks sequence; snow depth precedes water equivalent in the additive-data sequence.

FAA JO 7900.5E with Change 1, 13.42; 13.50-13.51, p. 95-98

9. ASOS has failed and you are in manual backup mode. You determine the dry bulb temp to be -1.5C. How would this be entered in column 11 of the MF1M-10C form?

A. -01

B. M01

C. -02

D. M02

VERIFIED / Answer: A

-01.

FAA rounding makes -1.5 become -1. Column 11 uses a minus sign and a leading zero; M01 is the transmitted METAR form, not the form entry. Change 1 says MF1M-10C is not required solely because an automated station has failed, but the requested column-entry rule is still determinate.

FAA JO 7900.5E with Change 1, 3.9-3.10, p. 15

FAA JO 7900.5E with Change 1, 14.10k, p. 103

10. You are in manual observation mode and observe blowing snow conditions with a prevailing surface visibility of 1/2SM. The blowing snow is obscuring about 1/2 the sky and no clouds are noted. What would be the correct entries on the observation form for sky condition / remarks?

A. BKN000 / SN BKN000

B. SCT000 / no remark

C. SCT000 / BLSN SCT000

D. SCT000 / SN SCT000

VERIFIED / Answer: C

SCT000 / BLSN SCT000.

Half the sky is 4/8, which is scattered. A partial surface-based obscuration has height 000, and the remark identifies the actual obscuring phenomenon, BLSN.

FAA JO 7900.5E with Change 1, Table 10-1; 10.10, p. 69-71

FAA JO 7900.5E with Change 1, 13.35, p. 93

11. At the time of the 1200Z metar there is 1/4 inch of glaze on the ground, topped by 1/4 inch of ice pellets. What should be reported for the 4/sss group?

A. No report.

B. 4/000

C. 4/001

D. 4/0005

VERIFIED / Answer: C

4/001.

Glaze and ice pellets both count in depth on ground. Their total is 0.5 inch, which rounds upward to 1 whole inch for the three-digit snow-depth group at an authorized station.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.50, p. 98

FAA JO 7900.5E with Change 1, Appendix G, Snow Depth, p. 151

12. The prevailing surface visibility has decreased from 1SM in BR to 1/2SM, while the temp has decreased from 1C to 0C. The correct present weather entry is:

A. FZBR

B. FZFG

C. FG

D. BR

E. IC

VERIFIED / Answer: C

FG.

At 1/2SM the droplets are reported as fog, not mist. FZFG requires temperature below 0C; exactly 0C does not meet that criterion. BR cannot take a freezing descriptor.

FAA JO 7900.5E with Change 1, 9.3g-j, p. 55

FAA JO 7900.5E with Change 1, 13.13c(1), c(9), p. 84

13. If ASOS detects snow at a temp >38F, the PI sensor is set to:

A. NP

B. -SN

C. UP

D. -RA

VERIFIED / Answer: A

NP (No Precipitation), in the documented ASOS PI algorithm.

The guide explicitly sets snow output to NP when the temperature check is greater than 38F. This is a sensor-algorithm rule, not an instruction to ignore snow actually observed by a human.

NOAA ASOS User's Guide (March 1998), 4.3.6, p. 35

14. Match the precipitation type with its definition:
1. ____ snow grains
2. ____ ice pellets
3. ____ snow pellets

A. White, opaque grains of ice.

B. Very small, white, opaque grains of ice

C. Transparent or translucent pellets of ice

VERIFIED

1-B; 2-C; 3-A.

Snow grains are very small opaque grains; ice pellets are transparent or translucent; snow pellets are white opaque grains, generally larger than snow grains.

FAA JO 7900.5E with Change 1, 9.2c(2)-(5), p. 53-54

15. Which of the following combinations of present weather and prevailing surface visibility are valid?

A. +PL BR 2 1/2SM

B. [unclear intensity prefix]SN FG 1/4SM

C. DS 1/2SM

D. BR BCFG 3SM

E. All examples are correct

NEEDS REVIEW - NOT SCORED

A, C, and D are compatible with the cited rules. Light or moderate snow together with fog can also be compatible with 1/4SM; heavy snow is permitted at that visibility.

The source does not allow the intensity prefix immediately before SN in B to be read confidently. It has not been silently guessed, so the all-examples choice is not assigned for grading. +PL may occur at 2 1/2SM; DS is appropriate at 1/2SM; BR may coexist with patches of fog at 3SM. With fog present, snow intensity need not be inferred solely from combined visibility.

FAA JO 7900.5E with Change 1, 9.3g-j; 9.4g, p. 55-56

FAA JO 7900.5E with Change 1, 9.12-9.13; Tables 9-3 and 9-5, p. 59-60

FAA JO 7900.5E with Change 1, 13.13c(5), p. 84

16. You are checking the prevailing visibility and note the following sector visibilities:
N-E 3/4 E-SE 1/2 SE-S 1/4 S-SW 1 SW-NW 1/2 NW-N 1/4
Snow is falling. What is the prevailing visibility and present weather?

A. 3/4SM -SN

B. 1/4SM +SN

C. 1/2SM SN

VERIFIED / Answer: C

1/2SM SN.

Weight the actual sector arcs, not their count. Visibility is at least 1/2 mile across 270 degrees, but at least 3/4 mile across only 135 degrees. The greatest value covering at least half the horizon is therefore 1/2 mile. With snow as the stated visibility-reducing weather, that corresponds to moderate snow.

FAA JO 7900.5E with Change 1, 8.2a; 8.9, p. 49-51

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

17. Field elevation is considered to be:

A. The elevation of the ACU

B. The elevation of the ACU

C. The elevation of the CWO

D. The highest point on any runway

VERIFIED / Answer: D

The elevation of the highest point on any airport runway.

The FAA definition is runway-based, not the instrument or observing-office elevation. The identical A and B options are retained as printed.

FAA JO 7900.5E with Change 1, 12.2d, p. 76

18. If ASOS detect both -FZRA and -SN, what will it report for present weather?

A. UP

B. -FZRA

C. -FZRASN

D. -SN

VERIFIED / Answer: D

-SN under the documented unaugmented ASOS hierarchy.

The guide reports one precipitation type at a time and gives snow precedence over freezing rain. Table 6 explicitly pairs FZRA plus -SN sensor outputs with a final -SN report. Human augmentation can add observed types; this is not a manual mixed-precipitation coding rule.

NOAA ASOS User's Guide (March 1998), 4.3.6; 4.3.9-4.3.10; Table 6, p. 35-38

19. Which of the following meet the criteria for a variable ceiling?

A. Ceiling BKN008; Ceiling varying between 700 and 900 feet.

B. Ceiling BKN029; Ceiling varying between 2700 and 3200 feet.

C. Ceiling BKN015; Ceiling varying between 1300 and 1700 feet.

D. All of the above meet the criteria.

VERIFIED / Answer: D

All three examples meet the numerical criteria.

The ranges are 200 feet for an 800-foot ceiling, 500 feet for a 2,900-foot ceiling, and 400 feet for a 1,500-foot ceiling. Each meets the corresponding threshold. As with all variable-ceiling reports, the changes must be rapid during evaluation; the maximum can exceed 3,000 feet when the ascribed ceiling is below 3,000.

FAA JO 7900.5E with Change 1, 10.17; Table 10-5, p. 73

20. With a surface prevailing visibility of 1/2SM, which of the following present weather examples are correct?

Select all that apply.

A. +PL

B. -SN FG

C. SN FG

D. BLDU

E. FZDZ

F. All examples are correct.

VERIFIED / Answer: A, B, C, E

+PL, -SN FG, SN FG, and FZDZ are compatible examples.

Heavy ice pellets can reduce visibility below 3 miles. Fog can account for part of the reduced visibility, so light or moderate snow with FG is possible at 1/2SM. Moderate freezing drizzle fits the visibility interval. Wind-raised dust reducing visibility to 1/2SM is a duststorm (DS), not BLDU, so D and F are not correct.

FAA JO 7900.5E with Change 1, 9.3a, p. 54

FAA JO 7900.5E with Change 1, 9.12-9.13; Tables 9-3 and 9-5, p. 59-60

FAA JO 7900.5E with Change 1, 9.16a, p. 61

Summer 2025 Refresher Training

Answer review

20 questions | Original order retained

1. In determining the prevailing visibility, how many sectors can the horizon be divided into?

A. 8

B. 6

C. 4

D. 2

VERIFIED / Answer: A

Eight sectors, at most.

Each visibility sector must represent at least one eighth of the horizon, or 45 degrees. Thus eight is the maximum; sectors need not always be equal or number exactly eight.

FAA JO 7900.5E with Change 1, 8.2b, p. 49

FAA JO 7900.5E with Change 1, 8.10, p. 51

2. If the visibility is varying rapidly during the time of observation, the observer should use which of the following in determining the prevailing visibility:

A. The lowest observed value.

B. The highest observed value.

C. The average of all observed values.

VERIFIED / Answer: C

The average of all observed values.

Section 8.9 explicitly specifies the average when visibility varies rapidly during the observation. A variable-visibility remark may also be required under 8.11.

FAA JO 7900.5E with Change 1, 8.9; 8.11, p. 51

3. What is the definition of prevailing visibility?

A. The lowest visibility equaled or exceeded throughout half or more of the horizon circle, which need not be continuous.

B. The greatest visibility exceeded throughout at least half of the horizon circle, which need not be continuous.

C. The lowest visibility exceeded throughout half or more of the horizon circle, which need not be continuous.

D. The greatest visibility equaled or exceeded throughout at least half of the horizon circle, which need not be continuous.

VERIFIED / Answer: D

The greatest visibility equaled or exceeded across at least half the horizon; the contributing portions need not be continuous.

The definition uses greatest, not lowest, and includes visibility equaled as well as exceeded. Option B incorrectly omits equality.

FAA JO 7900.5E with Change 1, 8.2a, p. 49

4. The following visibility values were observed: N 2, E 1 7/8, S 2 1/8, W 3 1/2. What is the prevailing visibility that should be entered into the visibility field of the ASOS/AWOS?

A. 1 7/8

B. 2

C. 3

D. 2 1/8

VERIFIED / Answer: B

2 statute miles.

Treating the four stated directions as the four horizon sectors, at least half the horizon has 2 1/8 miles or more. That raw value falls between reportable values and must be lowered to 2 miles. 2 1/8 is not a reportable value in the cited manual or automated tables.

FAA JO 7900.5E with Change 1, 6.7a, p. 40

FAA JO 7900.5E with Change 1, 8.2a; Table 8-1, p. 49-50

5. Suitable night time visibility markers are:

A. Airport beacons.

B. High intensity focused lights.

C. Unfocused lights of moderate intensity.

D. Focused lights of moderate intensity.

VERIFIED / Answer: C

Unfocused lights of moderate intensity.

Night visibility is evaluated using suitable unfocused lights. Focused lights such as airport beacons must not be used because their intensity makes them unsuitable.

FAA JO 7900.5E with Change 1, 8.2g; 8.6, p. 49-50

6. With a prevailing visibility of 1/2 SM, which of the following present weather scenarios is valid?

A. +DZ FG

B. DZ FG

C. -DZ BR

D. +RA BR

VERIFIED / Answer: B

DZ FG.

Moderate drizzle is compatible with 1/2SM. Heavy drizzle is not allowed above 1/4SM, even with another obscuration. BR requires at least 5/8SM surface visibility, so the two BR choices do not fit the stated surface-weather scenario.

FAA JO 7900.5E with Change 1, 9.3g-j, p. 55

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

7. You are in backup manual obs mode and observe surface based blowing dust surrounding the station, reducing the prevailing visibility to 3/4 SM. 2/8 of the sky is obscured. The correct remarks are:

A. BLDU FEW000

B. DU FEW000.

C. BLDS FEW000

D. +DS FEW000.

VERIFIED / Answer: A

BLDU FEW000.

Wind-raised dust at 3/4SM is BLDU, rather than DS (which starts at 5/8SM or less). Two eighths is FEW, and a partial surface-based obscuration is coded with height 000.

FAA JO 7900.5E with Change 1, 9.3a, p. 54

FAA JO 7900.5E with Change 1, Table 10-1; 10.10, p. 69-71

FAA JO 7900.5E with Change 1, 13.35, p. 93

8. You go outside at obs time and a thunderstorm that was west of the station is now overhead. In one minutes time you observe about 3 lightning in cloud flashes overhead. Moderate rain is occurring along with an occasional hail stone falling. The average hail stone is 1/8" in diameter with a few stones as large as 1/4". Which of the following remarks are encoded correctly?

A. FRQ LTGIC OHD TS OHD MOV E GR 1/4.

B. FRQ LTGIC OHD TS CB OHD MOV E GR 1/8

C. OCNL LTGIC OHD TS OHD MOV E CB OHD MOV E GR 1/4.

D. OCNL LTGIC OHD TS OHD MOV E GR 1/8.

VERIFIED / Answer: A

FRQ LTGIC OHD TS OHD MOV E GR 1/4.

Three flashes per minute is frequent in-cloud lightning. Movement from west to overhead supports eastward movement. Hail size uses the largest stone, not the average. A separate CB remark duplicates a reported thunderstorm and is not used for that cloud. This answer follows the assigned JO 7900.5E Change 1 edition.

FAA JO 7900.5E with Change 1, Table 9-8; 9.25, p. 64

FAA JO 7900.5E with Change 1, 13.31-13.32, p. 92-93

FAA JO 7900.5E with Change 1, 13.37, p. 94

9. ASOS/AWOS has suffered a total failure. You are now in backup manual obs operations. Your last manual metar showed the prevailing visibility was 3/4 SM in BR. The air traffic controller calls down with a tower visibility now at 1/2 SM. What are now the correct prevailing visibility / present weather / remarks?

A. 1/2 SM / FG / SFC VIS 3/4

B. 3/4 SM / BR / TWR VIS 1/2

C. 1/2 SM / BR / SFC VIS 3/4

VERIFIED / Answer: C

1/2 SM / BR / SFC VIS 3/4, provided re-evaluation confirms that the surface conditions remain unchanged.

The lower tower visibility goes in the body when either level is below 4SM. Surface visibility goes in remarks. Surface-observed BR does not become FG merely because tower visibility is lower. Section 8.14 requires the surface observer to re-evaluate after receiving the differing tower value.

FAA JO 7900.5E with Change 1, 8.3, p. 50

FAA JO 7900.5E with Change 1, 8.14, p. 52

FAA JO 7900.5E with Change 1, 9.3j; 9.30, p. 55-65

NOAA ASOS User's Guide (March 1998), 5.1, Examples 6-7, p. 44-45

10. It is the middle of a warm sunny summer afternoon. You observe an isolated CB covering less than 1/8 of the sky in an otherwise clear sky. You estimate the CB is about 30 miles east of the station and observe 6 lightning in cloud flashes in one minute. Cloud base is estimated to be 7000 feet. You are unsure of cloud movement. What are the correct sky condition and remarks?

A. CLR FRQ LTGIC DSNT E CB DSNT E

B. FEW070 FRQ LTGIC DSNT E

C. FEW070 FRQ LTGIC DSNT E CB DSNT E

D. FEW070 FRQ LTGIC DSNT E CB DSNT E MOV UNKN.

VERIFIED / Answer: C

FEW070 FRQ LTGIC DSNT E CB DSNT E.

A visible nonzero layer under 1/8 is FEW. Six flashes per minute is FRQ, not CONS. Beyond 10SM use DSNT, and do not append CB to the cloud layer. Movement is included only when known; MOV UNKN is not the prescribed entry.

FAA JO 7900.5E with Change 1, Table 10-1, p. 69

FAA JO 7900.5E with Change 1, 10.18, p. 73

FAA JO 7900.5E with Change 1, 13.28; Table 13-7, p. 91

FAA JO 7900.5E with Change 1, 13.37, p. 94

11. You are taking backup manual obs and at the hourly metar time you note that the pressure has fallen .02" in the past 15 minutes. TRUE or FALSE. You shall report PRESFR in remarks.

A. True

B. False

VERIFIED / Answer: B

False under JO 7900.5E Change 1.

The change is equivalent to a fall rate of 0.08 inch per hour and a total of 0.02 inch, so it meets the numerical rapid-fall threshold. However, Change 1 marks PRESFR as automated-only and explicitly prohibits observer backup of this remark. Do not use the older numerical rule alone to require a manual remark.

FAA JO 7900.5E with Change 1, Table 3-2, Pressure Rising or Falling Rapidly, p. 24

FAA JO 7900.5E with Change 1, 12.5a, p. 78

12. In the event of an aircraft mishap, the observer shall wait at least ___hour(s) after the mishap before initiating an archive of the ASOS/AWOS 5-minute obs and archive the data for a period of ___hour(s) before and ___hour(s) after the incident.

A. 1 1 1

B. 2 1 1

C. 1 2 2

D. 2 2 2

NEEDS REVIEW - NOT SCORED

The FAA minimum archive covers 1 hour before through 1 hour after the mishap. An AOMC request must be made within 10 hours.

Option A contains the required 1-before/1-after span, but the checked FAA section does not impose its stated universal minimum wait before initiating the archive. The workflow for preserving future data or repeating an archive depends on the system and local procedure; AWOS archiving is specifically referred to its Technical Instruction Book. Do not grade the first blank without the applicable procedure.

FAA JO 7900.5E with Change 1, 4.3, p. 31

13. The hourly rate of fall required for moderate rain (RA) is:

A. .10"/hr

B. .15" to .30"/hr

C. .11" to .30"/hr

D. .10" to .20"/hr

VERIFIED / Answer: C

0.11 to 0.30 inch per hour.

This is the moderate range in Table 9-4. Up to 0.10 is light; more than 0.30 is heavy.

FAA JO 7900.5E with Change 1, Table 9-4, p. 60

14. Which of the following obstructions may be reported in present weather when the prevailing visibility is equal to or greater than 7SM?:

Select all that apply.

A. MIFG

B. BCFG

C. PRFG

VERIFIED / Answer: A, B, C

MIFG, BCFG, and PRFG.

All three are explicit exceptions permitting the fog descriptor to be reported even when prevailing visibility is at least 7SM, provided the local fog characteristics meet the definitions.

FAA JO 7900.5E with Change 1, 9.7a, p. 58

FAA JO 7900.5E with Change 1, 9.31, p. 65

15. The phrase "SHRA AT AP" can include which of the following areas:

Select all that apply.

A. The usual point of observation

B. Buffer zones around the operating areas of the airport.

C. Runways

D. Airport terminal

VERIFIED / Answer: C, D

Runways and the airport terminal.

AT AP applies when the phenomenon is not at the usual observation point but affects operating areas such as runways, taxiways, ramps, terminals, or adjacent areas. Buffer zones are explicitly excluded.

FAA JO 7900.5E with Change 1, 9.7c, p. 58

16. How many pressure sensors are installed in ASOS/AWOS systems at towered airport locations and where are the sensors located ?:

A. 3, DCP

B. 2, ACU

C. 1, OID

D. 3, ACU

VERIFIED / Answer: D

For the documented ASOS configuration: three pressure sensors in the ACU.

The ASOS guide specifies three independent sensors at towered airports and locates their tray in the ACU. This verifies the ASOS configuration in the quiz; it is not a claim that every make or class of non-Federal AWOS has identical hardware.

NOAA ASOS User's Guide (March 1998), 3.3; 3.3.1, p. 18

17. Which of the following are valid ASOS/AWOS generated wind readings?:

Select all that apply.

A. 27003G14KT

B. 19008G13KT

C. 36011G15KT

D. 09004G20KT

VERIFIED / Answer: A, C, D

A, C, and D are possible under the documented ASOS gust algorithm.

The ASOS guide sets the minimum reportable gust at 14 knots, excluding B's 13 knots. A stored gust can remain reportable after the current sustained wind drops below the 9-knot gust-detection threshold. Thus current speeds of 3 or 4 knots do not themselves invalidate A or D, and 11G15 is also possible when the required earlier samples and peak-to-lull spread exist.

NOAA ASOS User's Guide (March 1998), 3.2.2.2a, p. 16

18. ASOS/AWOS is indicating a temp/dew point of 80/40 F. At these values what would be the max allowable dew point error?:

A. 4.5 F

B. 2.0 F

C. 6.0 F

D. 5.0 F

NEEDS REVIEW - NOT SCORED

The applicable sensor model and accuracy specification must be identified before selecting a maximum-error value.

The March 1998 guide's chilled-mirror Table 1 gives a 2.0F to 7.9F maximum-error range for dew points above 32F through 86F, dependent on dew-point depression. Here the depression is 40F, not zero; the table does not directly give a unique listed value for this case. Later ASOS releases support a replacement DTS1 sensor. Neither the old range nor an unsupported interpolation proves the quiz's intended 2025 threshold. Obtain the installed sensor's approved specification.

NOAA ASOS User's Guide (March 1998), 3.1.1; Table 1, p. 12

NWS ASOS Software Version 2.79 Release Notes, 1.1; 2.0, p. 1

19. The proximity qualifier for vicinity, VC, is not used with:

A. HZ

B. FG

C. BLSA

D. PO

VERIFIED / Answer: A

HZ.

The allowed VC combinations include FG, BLSA, and PO, but not HZ. VC does not receive an intensity qualifier.

FAA JO 7900.5E with Change 1, 13.13b(2), p. 83

20. Which of the following may be used as an aid in estimating wind direction?:

Select all that apply.

A. Wind cone

B. Facing into the wind in unsheltered areas

C. Observing movement of very low clouds

D. Observing the movement of smoke

VERIFIED / Answer: A, B, D

Wind cone, facing into the wind in an unsheltered area, and smoke movement.

The FAA specifically permits these aids and explicitly prohibits using cloud movement to estimate surface wind direction, regardless of how low the clouds are.

FAA JO 7900.5E with Change 1, 7.5, p. 46

Fall 2025 Refresher Training

Answer review

20 questions | Original order retained

1. Match the additive data group with its description.
1. Hourly temp and dew pt
2. 6 hour max temp
3. 6 hour min temp
4. 3 hour pressure tendency
5. 24 hour max and min temp

A. 403720228

B. 51003

C. T03060211

D. 20155

E. 10261

VERIFIED

A-5; B-4; C-1; D-3; E-2.

The leading identifiers distinguish 24-hour maximum/minimum (4), three-hour tendency (5), hourly temperature/dew point (T), six-hour minimum (2), and six-hour maximum (1). These automated groups are decoded here, not authorized for observer backup.

FAA JO 7900.5E with Change 1, 13.52-13.56, p. 98-99

2. ASOS has completely failed during a thunderstorm, causing you to revert to manual observations. Your only source for the altimeter is the tower ASI. The tower informs you that the ASI is rapidly fluctuating between 29.92 and 29.96, but estimates the altimeter as 29.94. What entry do you make on the MF1M-10C for the altimeter?

A. 2994

B. 29.94

C. 2992

D. NO ENTRY

E. 2996

F. 29.96

VERIFIED / Answer: D

No entry when the only available value is an estimate.

Altimeter settings must never be estimated. Do not average the fluctuation endpoints or select an endpoint simply to fill the form. A valid reading from approved equipment is required; without it, column 13 remains blank. This is not a claim that any fluctuation automatically makes an ASI unusable. Change 1 does not require MF1M-10C solely for an automated-system failure.

FAA JO 7900.5E with Change 1, 6.11, p. 43

FAA JO 7900.5E with Change 1, 14.10m, p. 104

FAA JO 7900.5E with Change 1, 3.10b, p. 15

3. On the MF1M-10C form, a temperature of -0.1C and a dew pt of -0.5C would be entered as_____and the transmitted data would appear as_____.

A. -00 | -01 M00 / M01

B. -00 | -00 M00 / M00

C. M00 | M01 -01 / -01

D. 00 | 00 00 / 00

E. M00 | M00 M00 / M00

VERIFIED / Answer: B

Form: -00 | -00. Transmitted: M00/M00.

Both values round to zero under FAA's negative-number rounding rule, while retaining the subzero sign. The form uses a minus; the transmitted observation uses M. The coding section explicitly gives -0.5C as M00.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.15b, p. 88

FAA JO 7900.5E with Change 1, 14.10k-l, p. 103

4. ASOS has been reporting a sky condition of OVC015 with a temp of 32F. Precipitation in the form of frozen raindrops has begun to fall and is restricting the prevailing visibility to 5SM. Very light snow has also begun to fall. ASOS begins reporting UP in the present weather field. What changes would you make, if any, in the present weather field?

A. Leave UP in the present weather field, as ASOS cannot determine the precip type.

B. -PLSN

C. -SNPL

D. PLSN

VERIFIED / Answer: D

PLSN.

Frozen raindrops are ice pellets, not freezing rain. In this scenario they reduce visibility below 7SM but not below 3SM, supporting the moderate ice-pellet choice in Table 9-3. They predominate over the very light snow. Replace the machine's unknown identification with the observed types, with the dominant type first and one combined intensity indicator.

FAA JO 7900.5E with Change 1, 9.2c(5), p. 54

FAA JO 7900.5E with Change 1, Table 9-3; 9.13, p. 60

FAA JO 7900.5E with Change 1, 13.13d(1), p. 84

5. The current one minute pressure obtained from the 3 ASOS pressure sensors are: 29.159, 29.153, 29.152. Which pressure value will ASOS use to compute an altimeter setting?

A. All three are used.

B. 29.159

C. 29.153

D. 29.152

VERIFIED / Answer: D

29.152.

The ASOS pressure algorithm selects the lowest one-minute pressure from an agreeing sensor pair with difference no greater than 0.04 inch. All three stated values agree within that tolerance; the lowest is 29.152.

NOAA ASOS User's Guide (March 1998), 3.3.2, p. 19

6. Which of the following precipitation type's intensity can be determined by both rate of fall and prevailing visibility?

A. Rain

B. Snow

C. Drizzle

D. Ice pellets

E. Freezing rain.

VERIFIED / Answer: D

Ice pellets.

Table 9-3 uses accumulation and visibility effects to estimate ice-pellet intensity, while Table 9-4 also permits a rate-of-fall method. Rain/freezing rain use drop/spray characteristics or rate; snow and drizzle use visibility.

FAA JO 7900.5E with Change 1, 9.12; Tables 9-3 to 9-5, p. 59-60

7. Match the following present weather examples with all the prevailing visibilities that may apply.

1. ____ 3SM
2. ____ 1/4SM
3. ____ 1/2SM

A. SN FG

B. PL

C. BR

D. +SN FG

E. DS

F. -SN FG

NEEDS REVIEW - NOT SCORED

Supported compatibility: A with 1/4SM or 1/2SM; C with 3SM; D with 1/4SM; E with 1/2SM; F with 1/4SM or 1/2SM. B requires an ice-pellet intensity assessment, not a unique visibility-only bin.

Fog can supply part of the visibility reduction, so light or moderate snow with FG can occur at 1/4SM. Heavy snow is not allowed above 1/4SM. DS is 5/16 to 5/8SM, and BR is at least 5/8SM but below 7SM. The ice-pellet table describes moderate pellets as slow accumulation with visibility below 7SM, and heavy pellets as rapid accumulation with visibility below 3SM; those visibility conditions overlap. The question supplies no accumulation/rate information to make a uniquely exclusive mapping for PL. Do not impose an unsupported 3SM lower bound on moderate pellets.

FAA JO 7900.5E with Change 1, 9.3g-j; 9.4g, p. 55-56

FAA JO 7900.5E with Change 1, 9.12-9.13; Tables 9-3 to 9-5, p. 59-60

8. Place the following manual remarks in their correct numerical order of entry:

A. FU BKN020

B. VIRGA

C. SNINCR 1/2

D. (ACFT MISHAP)

E. TCU OHD

F. VIS NE 2 1/2

NEEDS REVIEW - NOT SCORED

By the FAA remark-category sequence: F, B, A, E, D, C. Equivalently A=3, B=2, C=6, D=5, E=4, F=1.

The ordering is supported by sections 13.26, 13.33, 13.35, 13.37, 13.41, and 13.42. The printed aircraft-mishap entry is nonstandard: the prescribed retained-only record remark is (ACFT MSHP), not (ACFT MISHAP), and it must not be transmitted. Preserve the printed choice but do not grade the malformed set as fully valid operational coding. SNINCR 1/2 means a 1-inch increase and 2 inches on the ground; it is not a half-inch quantity.

FAA JO 7900.5E with Change 1, 13.26, p. 90

FAA JO 7900.5E with Change 1, 13.33; 13.35, p. 93

FAA JO 7900.5E with Change 1, 13.37, p. 94

FAA JO 7900.5E with Change 1, 13.41-13.42, p. 95

9. You observe the following sector visibilities: N-E 5; E-S 3, S-W 6, W-N 4. Present weather consists of precipitation falling in the form of frozen raindrops. Determine the prevailing visibility and present weather.

A. 3SM -FZRA

B. 3SM PL

C. 4SM -PL

D. 4SM PL

E. 5SM PL

F. 5SM -FZRA

NEEDS REVIEW - NOT SCORED

The prevailing visibility is 5SM and the precipitation type is PL. E is the intended combination only if the pellets are of moderate intensity.

The N-E and S-W quadrants together cover 180 degrees with visibility at least 5SM; only one quadrant reaches 6SM. Frozen raindrops identify ice pellets. Unlike question 4, this question does not state that the pellets cause the visibility reduction, nor give accumulation or rate of fall, so their intensity is not established. Preserve the distinction between identifying PL and choosing unqualified PL, which asserts moderate intensity.

FAA JO 7900.5E with Change 1, 8.2a; 8.9, p. 49-51

FAA JO 7900.5E with Change 1, 9.2c(5), p. 54

FAA JO 7900.5E with Change 1, 9.12; Tables 9-3 and 9-4, p. 59-60

10. The prevailing visibility requirement for PL is:

A. 7SM or less

B. More than 7SM

C. 3-6SM

D. Less than 3SM.

NEEDS REVIEW - NOT SCORED

For moderate ice pellets, Table 9-3 specifies slow accumulation and visibility reduced by the pellets to less than 7 miles. No listed option states that full rule.

Unqualified PL denotes moderate intensity. A incorrectly includes 7SM, B describes visibility above that range, and D alone does not establish heavy or moderate intensity. C is a common simplified training range, but the authoritative table does not expressly set 3SM as a lower limit for moderate pellets. Accumulation/rate and the pellets' actual visibility effect must be considered; do not grade the simplified range as an exact FAA requirement.

FAA JO 7900.5E with Change 1, 9.12; Tables 9-3 and 9-4, p. 59-60

FAA JO 7900.5E with Change 1, 9.19, p. 61

11. Which of the following manual remarks are correct?

Select all that apply.

A. TS CB OHD MOV S

B. VIRGA SW

C. SHRA E-SE

D. TS S MOVG E

E. OCNL LTGIC TS S MOV E

F. 4/0001

G. TCU W MOV E

NEEDS REVIEW - NOT SCORED

VIRGA SW (B) is explicitly correct. The remaining choices require correction or context before a complete key can be assigned.

A adds CB redundantly to the thunderstorm-location remark. D uses MOVG instead of prescribed MOV; E does not give an explicit lightning location before the separate TS-location remark; F has four snow-depth digits instead of three; G adds movement to the prescribed TCU location-only form. C lacks distance/at-airport context: precipitation beyond 10SM needs DSNT, and phenomena affecting the airport away from the observation point may need AT AP. Without that context, a complete multiple-answer key is not defensible.

FAA JO 7900.5E with Change 1, 9.7-9.8, p. 58

FAA JO 7900.5E with Change 1, 13.28, p. 91

FAA JO 7900.5E with Change 1, 13.31-13.33, p. 92-93

FAA JO 7900.5E with Change 1, 13.37, p. 94

FAA JO 7900.5E with Change 1, 13.50, p. 98

12. The sky is totally obscured by falling snow. Vertical visibility is 200 feet. Prevailing visibility 1/4SM. A thunderstorm is in progress. What would the correct entries in the ASOS SKY field and PRESENT WEATHER field?

A. OVC002CB +TSSN

B. VV002 +TSSN

C. VV002CB +TSSN

D. OVC002 +TSSN

VERIFIED / Answer: B

VV002 and +TSSN.

Total obscuration is represented by vertical visibility, not a cloud-base OVC report. VV002 is 200 feet and does not take a CB suffix. With snow as the stated obscuration at 1/4SM, heavy snow is appropriate; the thunderstorm descriptor produces +TSSN.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 13.13c(8), p. 84

FAA JO 7900.5E with Change 1, 13.14e, p. 87

13. For the purpose of depth measurements, the term "snow" shall include:

A. ICE PELLETS

B. GLAZE

C. HAIL

D. SHEET ICE

E. ALL OF THE ABOVE

VERIFIED / Answer: E

All of the above.

The Snow Depth glossary definition includes ice pellets, glaze, hail, combinations, and sheet ice formed directly or indirectly from precipitation. This inclusion concerns depth, not precipitation-type identification.

FAA JO 7900.5E with Change 1, Appendix G, Snow Depth, p. 151

14. Which of the following will ASOS not allow in the present weather field?

Select all that apply.

A. BCFG

B. MIFG

C. PRFG

D. VCFG

E. DU

F. PO

NEEDS REVIEW - NOT SCORED

Check the installed ASOS software/OID accepted-entry list. A manual METAR code's validity does not establish whether that specific OID accepts it.

JO 7900.5E recognizes these phenomena/descriptors in manual coding, while the ASOS User's Guide describes automatic sensing and possible augmentation. Neither checked source supplies a version-specific rejection list for these six OID entries. Do not infer UI restrictions from the fact that ASOS cannot automatically detect a phenomenon. The local OID/ready-reference procedure and software version are required to resolve this question.

FAA JO 7900.5E with Change 1, 13.13b-c; Table 13-4, p. 83-86

NOAA ASOS User's Guide (March 1998), 2.1.3; 2.4, p. 9

NOAA ASOS User's Guide (March 1998), 4.3.11, p. 38

15. You are in manual backup mode. It is raining such that individual drops can't clearly be identified. Spray is observed just above hard surfaces. What would you enter for present weather?

A. RA

B. -RA

C. +RA

VERIFIED / Answer: A

RA (moderate rain).

The description matches the moderate row in Table 9-2. Heavy rain instead has sheets of rain and heavy spray reaching several inches above hard surfaces.

FAA JO 7900.5E with Change 1, 9.12; Table 9-2, p. 59

16. Which of the following meet the definition of a variable ceiling height?

Select all that apply.

A. CIG 007V009

B. CIG 011V014

C. CIG 021V025

D. CIG 015V019

VERIFIED / Answer: A, D

CIG 007V009 and CIG 015V019 meet the numerical thresholds.

A spans 200 feet below 1,000 feet. D spans 400 feet within the greater-than-1,000 through 2,000-foot band. B spans only 300 feet where 400 is required; C spans only 400 where 500 is required. The definition also requires rapid variation during the evaluation period.

FAA JO 7900.5E with Change 1, 10.17; Table 10-5, p. 73

FAA JO 7900.5E with Change 1, 13.34, p. 93

17. TRUE or FALSE: The ASOS computer-generated voice messages broadcast the magnetic wind direction instead of true direction.

A. True

B. False

VERIFIED / Answer: A

True.

Wind for local aviation use is referenced to magnetic north; long-line METAR wind is referenced to true north. The ASOS guide's voice-message examples explicitly illustrate the conversion.

FAA JO 7900.5E with Change 1, 7.4, p. 45

NOAA ASOS User's Guide (March 1998), 6.4, Computer-Generated Voice Messages, p. 57-58

18. A strong late fall cold front, accompanied by thunderstorms and strong winds, is moving across the airport. The winds are causing considerable damage. Both the ASOS and FAA wind systems have been put out of service. What would you estimate the wind speed to be?

A. 40 knots

B. 45 knots

C. 55 knots

D. 70 knots

VERIFIED / Answer: C

55 knots is the listed choice within the considerable-damage category.

The FAA Beaufort table associates uprooted trees/considerable damage with 48-55 knots. 41-47 knots is slight structural damage, while 56-71 is widespread damage. This is a categorical estimate, not a precise measurement.

FAA JO 7900.5E with Change 1, 7.9; Table 7-1, p. 47

19. You are observing 2/8ths of the sky covered by TCU overhead and 1/8th coverage of CB 15 miles north thru east of the station. The TCU bases are at 4000 feet and the CB bases are at 3000 feet. All clouds are moving to the east. Encode the correct sky condition and remarks.

A. FEW030CB SCT040TCU / CB DSNT N-E MOV E TCU OHD.

B. FEW030 SCT040TCU / CB DSNT N-E MOV E TCU OHD

C. FEW030 SCT040TCU / CB DSNT N-E MOV E TCU OHD MOV E

D. FEW030 SCT040TCU / TCU OHD CB DSNT N-E MOV E

NEEDS REVIEW - NOT SCORED

Supported core coding: FEW030 SCT040TCU, with CB DSNT N-E and TCU OHD remarks.

Summation gives FEW at 3,000 feet and SCT at 4,000 feet. CB is beyond 10SM and must not be appended to FEW030; TCU overhead is appended to SCT040. C adds a TCU movement phrase not prescribed by the TCU format. B and D contain the supported cloud information with different remark ordering. The source gives a no-movement example for distant CB but its general CB rule allows known movement; that example alone does not prove that the extra MOV E is forbidden. A single-key judgment about this printed set therefore needs a clarified ordering/local convention, not the source's annotations.

FAA JO 7900.5E with Change 1, 10.6-10.7; Table 10-1, p. 69-70

FAA JO 7900.5E with Change 1, 10.18, p. 73

FAA JO 7900.5E with Change 1, 13.14g, p. 87

FAA JO 7900.5E with Change 1, 13.37, p. 94

20. ASOS is currently displaying a wind of 270/12. Which of the following sudden increases in wind speed would always cause ASOS to generate a squall special?

A. 270/20G30

B. 270/28G35

C. 270/22G30

D. 270/16G32

NEEDS REVIEW - NOT SCORED

B (270/28G35) is the intended numerical candidate, but the word 'always' is not supported by the instantaneous pair alone.

The documented ASOS algorithm compares a current two-minute average of at least 22 knots with the two-minute average computed two minutes earlier, requiring an increase of at least 16 knots. It also evaluates the stored five-second maximum and reporting conditions. A rise from 12 to 28 meets the arithmetic threshold only when those are the relevant time-averaged samples. The question does not provide the time history needed to guarantee automatic generation. Gust peaks alone do not satisfy the sustained-speed increase.

NOAA ASOS User's Guide (March 1998), 3.2.2.2c, p. 17

FAA JO 7900.5E with Change 1, 3.11g, p. 16

Winter 2026 Refresher Training

Answer review

20 questions | Original order retained

1. The intensity of freezing drizzle is determined according to the:

a. the temp/dew point spread

b. degree that it affects visibility

c. rate of accumulation

d. size of the drops

VERIFIED / Answer: b

Degree that it affects visibility.

For freezing drizzle alone, use prevailing visibility: light above 1/2 SM, moderate above 1/4 through 1/2 SM, and heavy at or below 1/4 SM. With other precipitation or obscurations, intensity cannot exceed the visibility-based limit.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.16(a), p. 61

2. A SPECI shall be transmitted whenever freezing precipitation or ice pellets _____, _____, or _____.

VERIFIED

Begins, ends, or changes intensity.

Each of these changes is an explicit SPECI criterion for both freezing precipitation and ice pellets.

FAA JO 7900.5E with Change 1, 3.11(f)(2)-(3), p. 16

FAA JO 7900.5E with Change 1, 9.14; 9.17, p. 61

3. Any form of precipitation that freezes on impact and forms a glaze on the ground or exposed surfaces is called:

a. snow grains

b. snow pellets

c. ice pellets

d. freezing precipitation

VERIFIED / Answer: d

Freezing precipitation.

The definition applies to precipitation that freezes upon impact and forms glaze, including freezing rain and freezing drizzle. Ice pellets, snow grains, and snow pellets reach the ground already frozen.

FAA JO 7900.5E with Change 1, 9.2(b)-(c), p. 53

4. Match the precipitation type with it's definition:
1. _____ snow grains
2. _____ ice pellets
3. _____ snow pellets

A. White, opaque grains of ice.

B. Very small, white, opaque grains of ice.

C. Transparent or translucent pellets of ice

VERIFIED

1-B: snow grains; 2-C: ice pellets; 3-A: snow pellets.

FAA definitions distinguish the very small opaque grains of snow grains, transparent or translucent ice pellets, and white opaque snow pellets.

FAA JO 7900.5E with Change 1, 9.2(c)(2), p. 53
FAA JO 7900.5E with Change 1, 9.2(c)(3), (5), p. 54

5. ASOS has failed and you are taking manual obs. Using a backup psychrometer, you determine the dry bulb temp to be -0.5C. The temp shall be transmitted as:

a. M01

b. 00

c. -01

d. M00

VERIFIED / Answer: d

M00.

The temperature-group rule explicitly gives -0.5 C as M00. Negative half-degree ties round toward the warmer whole degree, while the M prefix preserves that the measured temperature was below zero.

FAA JO 7900.5E with Change 1, 3.9, p. 15
FAA JO 7900.5E with Change 1, 13.15(b), p. 88

6. Which of the following does NOT require a SPECI ?

a. -SN changes to +SN

b. Small hail ends

c. -FZDZ ends

d. a squall is observed.

e. Snow grains begin or end.

VERIFIED / Answer: e

Snow grains beginning or ending is not a listed national SPECI trigger by itself.

Change 1 explicitly requires SPECI for snow intensity changes; small hail ending, freezing drizzle ending, and a qualifying squall also require SPECI. Snow grains (SG) are distinct from snow (SN). A separate visibility/ceiling trigger, critical condition, or local criterion can still require a SPECI.

FAA JO 7900.5E with Change 1, 3.11(f)-(g), p. 16

FAA JO 7900.5E with Change 1, 3.11(l), p. 17

FAA JO 7900.5E with Change 1, 9.2(c)(3), p. 54

7. If ASOS detects both light freezing rain and light snow, what will it report for present weather?

a. -FZDZ

b. -SN

c. UP

d. -FZDZSN

VERIFIED / Answer: b

-SN.

In the documented ASOS precipitation hierarchy, snow takes precedence over freezing rain. Table 6 maps freezing-rain detection plus -SN to -SN. This is unaugmented system behavior, not the manual rule for coding all observed precipitation types. The FZDZ distractors are preserved as printed.

NOAA ASOS User's Guide (March 1998), 4.3.6, p. 35

NOAA ASOS User's Guide (March 1998), 4.3.10; Table 6, p. 38

8. The visibility criteria for moderate ice pellets (PL) is:

a. 3-6SM

b. 1-3SM

c. less than1SM

NEEDS REVIEW - NOT SCORED

The FAA criterion is slow accumulation on the ground with visibility reduced by ice pellets to less than 7 miles; the printed ranges are incomplete.

Choice a is likely intended as shorthand for whole-mile values between the heavy-ice-pellet threshold and 7 SM, but the source does not define moderate ice pellets solely as 3-6 SM. It specifies accumulation behavior as well as visibility; heavy ice pellets involve rapid accumulation and visibility below 3 SM. No exact, complete criterion is offered, so do not auto-grade.

FAA JO 7900.5E with Change 1, 9.12, p. 59

FAA JO 7900.5E with Change 1, Tables 9-3 and 9-4, p. 60

FAA JO 7900.5E with Change 1, 9.19, p. 61

9. Match the present weather with the correct prevailing visibility.

1. _____ 1/2SM
2. _____ 1/4SM
3. _____ 3/4SM
4. _____ 1SM

a. SN

b. +SN FG

c. SN FG

d. FZDZ

NEEDS REVIEW - NOT SCORED

There is no complete one-to-one match. SN alone and FZDZ alone fit 1/2 SM; SN FG can fit 1/2 or 1/4 SM; +SN FG can fit 1/4 SM. None of the printed choices fits 3/4 or 1 SM as a complete standalone weather entry.

Moderate snow and moderate freezing drizzle cannot be reported above 1/2 SM; unqualified FG requires visibility below 5/8 SM. Fog can account for part of the restriction, allowing moderate snow with total visibility of 1/4 SM or less. The choices overlap, and two visibility rows have no suitable choice. Preserve the defective matching exercise without a grading key.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.16(a), p. 61

FAA JO 7900.5E with Change 1, 9.3(g), (j), p. 55

10. With a present weather scenario of SN FG, which of the following prevailing visibility values would be invalid:

a. 1/2SM

b. 1/4SM

c. 5/8SM

d. 0SM

VERIFIED / Answer: c

5/8SM is invalid.

SN cannot be reported when visibility exceeds 1/2 SM, and FG without a special qualifier requires visibility below 5/8 SM. At 1/4 SM or even a reportable manual visibility of 0 SM, fog can contribute to the reduction, so SN need not automatically become +SN. The manual reporting table includes 0 SM.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.3(g), p. 55

FAA JO 7900.5E with Change 1, 13.11; Table 13-3, p. 82

11. If ASOS detects snow at temps above 38F, then the PI sensor is set to:

a. -SN

b. UP

c. -RA

d. NP

VERIFIED / Answer: d

NP (No Precipitation), as the PI output used by the algorithm.

The documented PI algorithm overrides a -SN, SN, or +SN sensor output to NP when the temperature is above 38 F. NP is an internal/output state, not a literal NP weather group to insert in a METAR. This verifies the documented 1998 algorithm, not a specific installed station's software version.

NOAA ASOS User's Guide (March 1998), 4.3.6, p. 35

12. Along with a visibility and sky cover requirement, ASOS reports blowing snow with a temp of_____F or less, and wind speeds greater than_____KTS.

a. 32F / 30KTS

b. 28F / 25KTS

c. 14F / 22KTS

d. 20F / 15KTS

VERIFIED / Answer: c

14F or less, with wind speed greater than 22KTS.

The documented blowing-snow correction uses 15-minute average temperature and wind, visibility below 7 SM, and sky cover less than overcast or a ceiling above 10,000 feet. It replaces a false LEDWI rain report in the specified cold/windy conditions; these are ASOS algorithm thresholds, not universal manual BLSN criteria.

NOAA ASOS User's Guide (March 1998), 4.3.6, blowing-snow algorithm, p. 36

13. With a prevailing visibility of 1/2SM, which of the following would be a valid present weather entry?

Select all that apply.

a. +SN

b. +SN FG

c. SN

d. -SN FG

VERIFIED / Answer: c, d

SN and -SN FG can both be valid.

At 1/2 SM, snow alone can be moderate. With fog contributing to the visibility reduction, light snow with fog is also valid. Heavy snow is forbidden above 1/4 SM even if another obscuration is present, so neither +SN nor +SN FG is valid here.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.3(g), p. 55

14. The ASOS wind sensor is out of service. Using the airport wind system, the ATCT informs you the winds are averaging 25KTS over the past 2 minutes, and varying rapidly between 20 and 30KTS. This backup information would be entered via the OID as:

a. 25

b. 25G30

c. 20G30

d. 20Q30

NEEDS REVIEW - NOT SCORED

The supported meteorological value is 25 knots gusting to 30 knots, represented by the speed/gust portion 25G30. The exact OID entry requires the applicable terminal instructions.

The 2-minute mean is 25 knots and the peak-to-lull range is 10 knots, meeting the FAA gust definition. Thus b expresses the appropriate wind information, but the question specifically asks what to enter via the local OID. The checked order establishes reporting and coding, not the station-specific field syntax or workflow. No supplied local OID procedure has been verified, so leave this ungraded.

FAA JO 7900.5E with Change 1, 7.2(b); 7.3, p. 45

FAA JO 7900.5E with Change 1, 7.8; 7.10, p. 47

FAA JO 7900.5E with Change 1, 13.10(a), p. 81

15. TRUE or FALSE: The intensity of ice pellets may be determined by either visibility or rate of fall.

A. True

B. False

VERIFIED / Answer: A

True, with the qualification that the visibility-based method also uses accumulation behavior.

FAA 9.12 permits estimating ice-pellet intensity using the descriptive criteria in Table 9-3, which include visibility and accumulation, or the rate-of-fall criteria in Table 9-4. Visibility alone should not be treated as the entire descriptive criterion.

FAA JO 7900.5E with Change 1, 9.12, p. 59

FAA JO 7900.5E with Change 1, Tables 9-3 and 9-4, p. 60

16. You are taking manual obs due to ASOS failure. Snow is occurring 3-6 miles southeast of the station. The correct present weather entry shall be:

a. SHSN

b. VCSN

c. VCSH

d. VCSHSN

VERIFIED / Answer: c

VCSH.

Precipitation not occurring at the observation point but within 10 statute miles is coded VCSH, without its precipitation type or intensity. The 5-10 SM vicinity range used for non-precipitation phenomena does not exclude precipitation 3 miles away.

FAA JO 7900.5E with Change 1, 9.7(b), p. 58

FAA JO 7900.5E with Change 1, 13.13(b)(2), p. 83

FAA JO 7900.5E with Change 1, 13.13(c)(7), p. 84

17. The prevailing visibility has decreased from 1SM in BR to 1/2SM, while the temp has decreased from 1C to 0C. The correct present weather entry is:

a. FZFG

b. BR

c. FZBR

d. FG

VERIFIED / Answer: d

FG.

Given the existing water-droplet obscuration, 1/2 SM falls below the 5/8 SM fog threshold. At an actual temperature of 0 C, the below-zero condition for FZFG is not met. FZBR is not an allowed descriptor combination. This treats the stated temperature as the actual value, not merely a rounded METAR temperature.

FAA JO 7900.5E with Change 1, 9.3(g), (h), (j), p. 55

FAA JO 7900.5E with Change 1, 13.13(c)(1), (9), p. 84

18. At 0453Z you observe 4" of snow on the ground. At 0515Z it begins to snow. At 0553Z you measure 4.5" of snow. The required snow remarks are:

a. SNINCR 1/5 4/005

b. 4/005

c. SNINCR 1/5

d. 4/004

NEEDS REVIEW - NOT SCORED

At an eligible station, SNINCR 1/5 is supported; 4/005 also belongs in the observation representing the 0600 UTC synoptic report.

The depth increase is 0.5 inch in the past hour, which reports as 1 inch, and the rounded total depth rises from 4 to 5 inches. These satisfy both SNINCR tests. However, SNINCR depends on station/service applicability, 4/sss is required at Appendix F stations at specified synoptic times, and the prompt does not identify the station or explicitly establish that 0553Z is its nominal 0600 UTC report. Choice a is conditional, not a universally gradable requirement.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.42, p. 95

FAA JO 7900.5E with Change 1, 13.50, p. 98

FAA JO 7900.5E with Change 1, Appendix F.1-F.3, p. 140

19. Temperatures of, -0.3C, -0.5C, and -4.5C, should be transmitted as:

a. 00 M01 M05

b. M00 M00 M04

c. 00 M01 M04

d. M00 M00 M05

VERIFIED / Answer: b

M00, M00, M04.

Round to whole degrees under 3.9: -0.3 and -0.5 round to zero, and -4.5 rounds to -4. Retain the subzero M prefix for all three measured negative temperatures.

FAA JO 7900.5E with Change 1, 3.9, p. 15

FAA JO 7900.5E with Change 1, 13.15(b), p. 88

20. Which of the following precipitation events requires a SPECI:

a. hail begins or ends

b. freezing rain begins, ends, or changes intensity

c. ice pellets change intensity.

d. snow intensity changes from heavy to light.

e. all of the above.

VERIFIED / Answer: e

All of the above.

All four component events meet 3.11(f). In particular, Change 1 adds beginning, ending, and intensity changes of snow; an answer based on an earlier edition without that change would be outdated for this quiz.

FAA JO 7900.5E with Change 1, 3.11(f)(1)-(4), p. 16

Spring 2026 Refresher Training

Answer review

20 questions | Original order retained

1. The beginning of a Thunderstorm is reported when?

Select all that apply.

a. Thunder is heard.

b. Lightning observed, but local noise prevents from hearing thunder.

c. lightning is observed at a distance, but no thunder is heard.

d. both a and d

NEEDS REVIEW - NOT SCORED

Report the beginning when thunder is heard, when overhead lightning is observed and local noise may prevent hearing thunder, or when the specified automated lightning criterion is met.

Choice a states a valid criterion. Choice b omits the required overhead/at-station location; distant lightning alone does not establish a thunderstorm at the station. Choice d literally says 'both a and d', a self-reference, and must not silently be changed to 'a and b'. The malformed set cannot be graded reliably.

FAA JO 7900.5E with Change 1, 9.24, p. 64

2. When lightning is detected by the ALDARS system within 5 nautical miles of the Airport Reference Point it will be reported as "TS" in the body of the report with no remark:

A. True

B. False

VERIFIED / Answer: A

True.

Section 13.28b(1) specifically assigns TS in the report body, without a lightning-location remark, to ALDARS detections within 5 nautical miles of the ARP. This does not prohibit separately required thunderstorm beginning/ending or observer-augmentation remarks.

FAA JO 7900.5E with Change 1, 13.28b(1), p. 91

3. The ending of a thunderstorm is reported____minutes after the last occurrence of the event.

a. 10 minutes

b. 15 minutes

c. 5 minutes

d. 30 minutes

VERIFIED / Answer: b

15 minutes after the last qualifying thunderstorm occurrence.

The ending interval is measured from the last thunder, qualifying overhead lightning, or qualifying automated detection described in section 9.24, not simply from the end of rain.

FAA JO 7900.5E with Change 1, 9.24, p. 64

4. May the following types of precipitation be coded with a Thunderstorm. True or False:
RA
SN
PL
GS
GR

A. True

B. False

VERIFIED / Answer: A

True. Each listed precipitation type may be coded with TS.

Section 13.13c(8) explicitly permits TS with RA, SN, PL, GS, or GR. This does not mean all five can be put in one group: section 13.13d(1) limits a single present-weather group to three precipitation types.

FAA JO 7900.5E with Change 1, 13.13c(8), 13.13d(1), p. 84

5. At augmented automatic stations hailstone size is coded as GR in the remarks and diameter of the largest hail stone is coded in 1/4th inch increments.

A. True

B. False

VERIFIED / Answer: A

True for the stated hail-size reporting rule; hail smaller than 1/4 inch uses GR LESS THAN 1/4.

Section 13.32 identifies GR as the remark indicator and the size as the largest hailstone diameter in 1/4-inch increments. It separately specifies the less-than-1/4-inch exception; it does not authorize rounding such small hail up to 1/4 inch.

FAA JO 7900.5E with Change 1, 13.32, p. 93

6. A thunderstorm within 5SM of the station moving northeast is reported as a TS OHD MOV NE:

A. True

B. False

VERIFIED / Answer: A

True: TS OHD MOV NE.

This is the explicit example in section 13.31a. The statute-mile rule for this observer location remark is distinct from ALDARS nautical-mile detection ranges.

FAA JO 7900.5E with Change 1, 13.31a, p. 92

7. Your shift began at 1600 and you were briefed about the previous thunderstorms 2 hours earlier that moved east. At the 1700 observation you notice CB tops to the east. How is this reported?

a. CB E

b. CB DSNT E

c. TS E

d. TCU E

NEEDS REVIEW - NOT SCORED

Use CB E if the observed CB is within 10 SM; use CB DSNT E if it is more than 10 SM away. Add movement only if known.

The present distance is not supplied. A storm's earlier eastward movement and elapsed time do not establish that the currently observed CB is beyond 10 SM or is still producing thunder. CB tops alone do not support substituting TS or TCU. Both a and b depend on an omitted observation.

FAA JO 7900.5E with Change 1, 13.37, p. 94

FAA JO 7900.5E with Change 1, 9.24, p. 64

8. Pea size hail is falling (less than ¼ inch) in a thunderstorm overhead: how is this reported in the remarks?

a. GR 4

b. GR ¾

c. GR less than ¼

d. GR ¼

VERIFIED / Answer: c

GR LESS THAN 1/4.

Use the explicit stated measurement, less than 1/4 inch, rather than inferring a size from the informal word 'pea'. Choice c expresses the prescribed less-than-size remark; the transmitted form uses uppercase and the fraction 1/4.

FAA JO 7900.5E with Change 1, 13.32, p. 93

9. Precipitation is falling from the clouds N of the station, but is not reaching the ground because of evaporation. How is this coded in the remarks.

a. VCSH N

b. VIRGA N

c. N VIRGA

d. UKN SHRA N

VERIFIED / Answer: b

VIRGA N.

Evaporating precipitation that does not reach the ground is virga. The remark puts VIRGA first, followed by the optional direction from the station.

FAA JO 7900.5E with Change 1, 13.33, p. 93

10. Only CB/TCU are the only two cloud type appended to the sky condition layer:

A. True

B. False

VERIFIED / Answer: A

True. CB and TCU are the cloud-type identifiers appended to a layer report.

The layer format specifies CB or TCU suffixes. Other significant cloud types can be reported in remarks, but are not additional suffixes to the sky-condition layer code.

FAA JO 7900.5E with Change 1, 13.14, p. 87

FAA JO 7900.5E with Change 1, 13.37, p. 94

11. You relieve the day shift at 3pm. The observer briefs you that she generated a special for a funnel cloud at 255pm. You go outside and observe that the funnel cloud is now reaching the ground. What action should you take?

a. Edit the present weather to +FC, update manual remarks, and allow ASOS to transmit the SPECI.

b. Use the command GENOB - FUNNL to end the funnel cloud. After the SPECI transmits use the command GENOB - TRNDO to begin the tornado.

c. GENOB - SPECI - edit present weather by removing FC. Update remarks. Hit EXIT for immediate transmission. GENOB - SPECI - enter +FC in present weather and enter tornado remarks. Hit EXIT for immediate transmission.

d. Just ensure that manual remarks are current. No need to take a SPECI since FC is already entered in present weather.

NEEDS REVIEW - NOT SCORED

Report the newly observed tornado with +FC and the required tornado timing/location remarks in a SPECI. Confirm the installed OID's prescribed event-entry and transmission sequence before selecting a command-based option.

A rotating column reaching the ground is a tornado, not merely an unchanged FC report. Sections 3.11d and 9.22 require reporting the new tornadic activity. They do not establish which printed GENOB/EXIT sequence is supported by this station's OID or whether these actions automatically transmit as claimed. Option d is inconsistent with the reporting requirement; a, b, and c cannot be resolved as interface procedures from the checked public authority. No local procedure or live OID was supplied or tested.

FAA JO 7900.5E with Change 1, 3.11d, p. 16

FAA JO 7900.5E with Change 1, 9.22, p. 62-63

12. A wind shift is indicated by a change in wind direction of____ degrees or more in less than ___ minutes with sustained wind speeds of 10kt or more throughout the wind shift.

a. 45/15

b. 45/10

c. 40/10

d. 90/10

VERIFIED / Answer: a

45 degrees or more in less than 15 minutes, with wind at least 10 knots throughout.

These are all three parts of the wind-shift definition in section 7.7a and the SPECI criterion in section 3.11a.

FAA JO 7900.5E with Change 1, 7.7a, p. 46

13. You observe lightning overhead with three lightning flashes in the clouds/minute. How is this reported.

a. OCNL

b. FQT

c. CON

d. MAN

NEEDS REVIEW - NOT SCORED

The correct frequency contraction is FRQ; the described full lightning remark is FRQ LTGIC OHD.

Three flashes per minute is frequent lightning (about 1-6 flashes/minute), but FRQ is absent from the printed choices. The printed FQT is not the prescribed code and must not be silently repaired. CON is also not the prescribed CONS contraction. The options are preserved exactly and no option is graded correct.

FAA JO 7900.5E with Change 1, 13.28a; Table 13-7, p. 91

14. The temperature sensor on the ASOS is not reporting any temperatures. Only a NWS Technician can authorize a weather observer or anyone else to disable any of the ASOS sensors.

A. True

B. False

NEEDS REVIEW - NOT SCORED

An observer must not turn off report processing or set a channel out of service unless directed by maintenance personnel.

Section 6.4a supports the maintenance-authorization requirement, not unilateral action by an observer or senior observer. It says 'maintenance personnel', however, rather than establishing the quiz's exclusive 'Only a NWS Technician' authority over 'anyone else' and 'any' sensor. Confirm the station's maintenance responsibility and approved procedure before assigning a True/False grade to that broader assertion.

FAA JO 7900.5E with Change 1, 6.4a-b, p. 39-40

15. Hourly peak wind is the highest instantaneous wind speed over___kt , recorded since the last _____report.

a. 20kt/METAR

b. 25kt/METAR

c. 15kt/SPECIAL

d. 25kt/ COR

VERIFIED / Answer: b

Over 25 knots, since the last METAR.

FAA specifies peak speed greater than 25 knots in the next routine METAR. For ASOS, the user's guide identifies the greatest five-second average exceeding 25 knots since the preceding scheduled hourly METAR; the quiz's 'instantaneous' wording is the FAA terminology, not a claim that ASOS uses a zero-duration sample.

FAA JO 7900.5E with Change 1, 7.11, p. 47

NOAA/NWS ASOS User's Guide (March 1998), 3.2 Peak Wind, p. 15

16. There are scattered showers over the area with a shower on the airport. Can you type in SHRA in the present weather prompt on the OID screen?

A. True

B. False

VERIFIED / Answer: B

False under the automated-system limitation documented in JO 7900.5E. Report the rain using RA with the appropriate intensity.

Table 6-2 specifies RA for rain showers at automated systems with SPECI capability, and the note following Table 13-5 states that automated systems do not accept the SH entry. This is an automated-system limitation; SHRA remains a valid manual METAR code. It is not a live acceptance test of a later software version.

FAA JO 7900.5E with Change 1, 6.8; Table 6-2, p. 41

FAA JO 7900.5E with Change 1, 13.13; note following Table 13-5, p. 86

17. ALDARS can detect lightning strikes within 30 nm of the Airport Reference Point?

A. True

B. False

VERIFIED / Answer: A

True: the ALDARS reporting area extends to less than 30 nautical miles from the ARP.

Section 13.28b covers detections within 5 NM, 5-10 NM, and beyond 10 but less than 30 NM. The outer band produces LTG DSNT with direction. This concerns the reporting range; it is not a guarantee of detecting every flash, and the FAA wording does not include the exact 30-NM boundary.

FAA JO 7900.5E with Change 1, 13.28b(2)-(3), p. 92

18. A scattered layer of clouds at 2500ft with Towering Cumulus overhead as part of this layer. How would this be reported.

a. SCT025

b. SCT025TCU

c. TCU025

d. SCT025

VERIFIED / Answer: b

SCT025TCU.

The layer is SCT, 2500 feet is coded 025 in hundreds of feet, and associated towering cumulus is appended as TCU. Choices a and d are intentionally retained as duplicate printed distractors; neither includes the required cloud-type suffix.

FAA JO 7900.5E with Change 1, 13.14; Table 13-6, p. 87

19. Can you type VCSH in the remarks section of the OID screen?

A. True

B. False

NEEDS REVIEW - NOT SCORED

The FAA coding rule places VCSH in the report body for precipitation not at the point of observation but within 10 SM. Literal OID remarks-field acceptance requires the applicable software instructions.

The question asks what can be typed into an interface, not clearly what is the prescribed METAR placement. A free-text remarks field accepting characters is not evidence that the entry is authorized or transmitted as intended. The checked national references do not settle this station's field behavior or any approved software workaround. Do not transfer the SH present-weather-field restriction into an unsupported True/False claim about remarks.

FAA JO 7900.5E with Change 1, 9.7b, p. 58

NOAA/NWS ASOS User's Guide (March 1998), 2.1.3 Operator Interface Device, p. 9

20. The tower should be notified as soon as possible when prevailing visibility at the surface decreases to less than, or increases to equal or exceed:

a. 3 miles

b. 6 miles

c. 4 miles

d. 2 miles.

VERIFIED / Answer: c

4 miles.

Section 8.14a explicitly requires the surface observer to notify the tower when prevailing surface visibility crosses the 4-mile threshold in the directions stated.

FAA JO 7900.5E with Change 1, 8.14a, p. 52

Fall 2026 Refresher Training

Answer review

20 questions | Original order retained

1. PEAK WIND is the highest wind speed over_ knots, recorded since the last_____report.

A. 24 / SPECI

B. 25 / SPECI

C. 24 / METAR

D. 25 / METAR

VERIFIED / Answer: D

Over 25 knots, since the last METAR.

The peak-wind threshold is greater than 25 knots. The ASOS guide specifies the greatest five-second average exceeding that threshold since the preceding scheduled hourly METAR, not since the last SPECI. This repeated topic is preserved independently of Spring Q15.

FAA JO 7900.5E with Change 1, 7.11, p. 47

NOAA/NWS ASOS User's Guide (March 1998), 3.2 Peak Wind, p. 15

2. Typical ASOS wind sensor heights are_____or_____feet above ground.

A. 20 / 30

B. 33 / 27

C. 25 / 20

D. 35 / 25

VERIFIED / Answer: B

33 or 27 feet above ground.

The ASOS guide states these typical heights, depending on local siting restrictions or requirements. They are not a measurement of an unspecified station's actual installation.

NOAA/NWS ASOS User's Guide (March 1998), 3.2 Wind, p. 14

3. On the 1 - MINUTE CURRENT SENSOR DATA SCREEN, the last 5 minutes of 1 minute temperature values are: 35 35 36 37 37. What temperature will be displayed on the 1-MINUTE SCREEN ?

A. 35

B. 36

C. 37

NEEDS REVIEW - NOT SCORED

The five-minute average updated every minute is 36. The latest individual one-minute sensor value is 37. Confirm which OID display the question means.

Section 3.1.2 verifies the calculation (35 + 35 + 36 + 37 + 37) / 5 = 36 and distinguishes individual one-minute inputs from the five-minute temperature used in the one-minute observation. The prompt first names CURRENT SENSOR DATA and then only '1-MINUTE SCREEN', without identifying whether the latter is the raw sensor display or the processed observation display. The public algorithm description does not verify this local screen label. B is supported for the processed output, but a screen-dependent grade is withheld.

NOAA/NWS ASOS User's Guide (March 1998), 3.1.2 Ambient Temperature/Dew Point Temperature Algorithm, p. 12

4. TRUE or FALSE: Snow Grains (SG) never fall as showers.

A. True

B. False

VERIFIED / Answer: A

True.

The FAA definition says snow grains generally fall in small quantities from stratus-type clouds and never as showers. Snow grains (SG) must not be confused with snow pellets (GS).

FAA JO 7900.5E with Change 1, 9.2c(3), p. 54

5. TRUE or FALSE: Heavy snow (+SN) shall not be reported if the prevailing surface visibility is greater than 1/4 mile and moderate snow (SN) shall not be reported if the visibility is greater than 1/2 mile.

A. True

B. False

VERIFIED / Answer: A

True.

Section 9.13 expressly imposes both limits, with or without other obscuring phenomena. When other precipitation or obscurations also reduce visibility, the assigned snow intensity must not be greater than the intensity justified by snow alone.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

6. Which of the following precipitation types require a SPECI for change in intensity ?

Select all that apply.

A. Freezing Rain

B. Freezing Drizzle

C. Ice pellets

VERIFIED / Answer: A, B, C

All three: freezing rain, freezing drizzle, and ice pellets.

Change 1 section 3.11f requires a SPECI when freezing precipitation or ice pellets change intensity. Sections 9.14 and 9.17 confirm the respective requirements. Change 1 additionally includes snow; its absence from this option set does not make any listed option incorrect.

FAA JO 7900.5E with Change 1, 3.11f(2)-(4), p. 16

FAA JO 7900.5E with Change 1, 9.14, 9.17, p. 61

7. ASOS is reporting 4 miles visibility in Haze with a temperature of 50 and a dew point of 45. Light rain begins falling. What will ASOS now display for present weather ?

A. -RA HZ

B. -RA

C. -RA BR

VERIFIED / Answer: B

-RA under the documented ASOS obscuration algorithm.

Using the guide's Fahrenheit temperature convention, the dew-point depression is 5 F, greater than the 4 F threshold. HZ is suppressed when precipitation is reported, while this depression does not qualify for automatic BR. Thus the automated output is -RA, assuming the stated temperature/dew point and visibility remain otherwise unchanged. This is an algorithm answer, not a manual-observation rule that rain physically removes haze. The scan does not print a temperature-unit symbol.

NOAA/NWS ASOS User's Guide (March 1998), 4.3.11 Obscuration Algorithm, p. 38

8. The ASOS visibility sensor sampling volume is:

A. 0.75 cubic feet

B. 1.25 cubic feet

C. 3.00 cubic feet

D. 0.50 cubic feet

VERIFIED / Answer: A

0.75 cubic feet.

The user's guide explicitly gives the forward-scatter sensor's sampling volume as 0.75 cubic feet. This small physical sample volume is not the spatial area over which prevailing visibility is evaluated manually.

NOAA/NWS ASOS User's Guide (March 1998), 4.2.2 Forward Scatter Sensor, p. 29

9. Once the_____sensor is logged as inoperative, it can only be returned to operational status by a maintenance technician.

A. Wind

B. Dew Point.

C. Altimeter

D. Visibility

VERIFIED / Answer: C

Altimeter (pressure sensor/report processing).

The ASOS pressure algorithm states that a pressure sensor logged inoperative can be returned to operational status only by a maintenance technician. FAA section 6.4b likewise reserves reactivation of altimeter report processing to the appropriate technician.

NOAA/NWS ASOS User's Guide (March 1998), 3.3.2 Pressure Algorithm, p. 19

FAA JO 7900.5E with Change 1, 6.4b, p. 40

10. Blowing Snow (BLSN) is made up of snow particles raised by the wind to a height of _____ feet or more, sufficient to restrict_____visibility.

A. 9 / vertical

B. 6 / horizontal

C. 6 / vertical

D. 10 / horizontal

VERIFIED / Answer: B

6 feet or more; horizontal visibility.

Section 9.3c defines blowing snow with both the six-foot height criterion and restriction of horizontal visibility. Low drifting snow below that height is a different descriptor.

FAA JO 7900.5E with Change 1, 9.3c, p. 55

11. Necessary conditions for ASOS to report a totally obscured sky include a surface visibility _of____mile(s) or less and a high percentage of unknown hits at or below_____feet agl.

A. 3 / 2000

B. 1 / 1500

C. 1 / 2000

D. 2 / 1000

VERIFIED / Answer: C

1 mile or less and unknown hits at or below 2000 feet AGL.

These are the documented ASOS sky-condition algorithm's necessary conditions for formatting unknown returns as VV. They are not the separate manual requirement that a surface-based obscuration totally hide the sky.

NOAA/NWS ASOS User's Guide (March 1998), 4.1.2 Sky Condition Algorithm, p. 25

12. A pressure sensor whose 1 minute sensor value differs by more than_____inch from another operational sensor is automatically logged as inoperative.

A. 0.04

B. 0.02

C. 0.01

D. 0.03

VERIFIED / Answer: A

More than 0.04 inch of mercury.

The pressure algorithm explicitly uses a greater-than-0.04-inch difference to log a sensor inoperative and set its value missing. Do not confuse this comparison threshold with the separate 0.02-inch sensor accuracy specification.

NOAA/NWS ASOS User's Guide (March 1998), 3.3.2 Pressure Algorithm, p. 19

13. What, if anything, will occur when the ASOS algorithm calculates a dew point (DP) that is 2□ F higher than the ambient temperature?

A. It is not possible for ASOS to calculate a DP higher than the ambient temperature.

B. The DP will be automatically adjusted to equal the ambient temperature.

C. The 1-minute DP calculated will be recorded as missing (M) and a Maintenance Check Indicator ($) will be appended to the observation.

D. The DP value will be displayed in yellow and a Maintenance Check Indicator ($) will be appended to the observation. A "Check Systems Log" warning will flash at the bottom left side of the OID screen.

NEEDS REVIEW - NOT SCORED

If the intended unit is degrees Fahrenheit and the excess is exactly 2 F, the documented algorithm sets dew point equal to ambient temperature, as described by B.

The original has a square/unrendered glyph after '2', preserved here as a square rather than silently replacing it. Confirm the intended 2-degree-Fahrenheit wording before grading the malformed prompt. Section 3.1.2 explicitly says an excess of 2 F or less is set equal to ambient temperature; only an excess greater than 2 F makes the one-minute dew point missing. The guide does not establish the additional screen-color/log behavior asserted by D.

NOAA/NWS ASOS User's Guide (March 1998), 3.1.2 Ambient Temperature/Dew Point Temperature Algorithm, p. 12

14. Match the correct prevailing surface visibility with the present weather.
1. _____1/4 SM
2. _____5/8 SM
3. _____1/2 SM

A. -RA BR

B. +DZ FG

C. SN FG

D. DZ FG

NEEDS REVIEW - NOT SCORED

2 (5/8 SM) matches A. 3 (1/2 SM) can match C or D. 1 (1/4 SM) can match B, but fog can also reduce visibility enough for moderate SN or DZ to coexist at 1/4 SM. There is no unique one-to-one matching key.

BR applies at 5/8 SM or greater and ordinary FG below 5/8 SM. Snow/drizzle intensity thresholds do not make visibility an exclusive identifier when FG also contributes: section 9.13 prohibits assigning an intensity greater than justified by the precipitation alone. C and D are both permissible at 1/2 SM, and moderate precipitation may coexist with denser fog at 1/4 SM. The printed four options and three matching blanks are preserved; a single forced key would be misleading.

FAA JO 7900.5E with Change 1, 9.13; Table 9-5, p. 60

FAA JO 7900.5E with Change 1, 9.3g, 9.3j, p. 55

15. You go outside to measure the snow depth at the usual measurement site for the 12Z METAR. Half of the ground is bare with the other half averaging 6 inches in depth. What is the depth that should be entered in the 4/sss group?

A. 6

B. 3

C. None - omit the 4/sss group.

VERIFIED / Answer: B

3 inches; encode 4/003 at a station required to report this group.

NWS snow-measurement guidance gives this exact equal-area example: average the bare half (0) and snow-covered half (6) to obtain 3 inches. FAA section 13.50 specifies whole inches using three digits in 4/sss at designated sites. Exactly half bare is not the less-than-half-snow-covered trace case.

NWS Greenville-Spartanburg Snow Measurement Guidelines, Snow Depth, p. Web page (unpaginated)

FAA JO 7900.5E with Change 1, 13.50, p. 98

16. TRUE or FALSE: For the purpose of depth measurement, the term "snow" shall include ice pellets, glaze, hail, any combination of these, and sheet ice formed directly or indirectly from precipitation.

A. True

B. False

VERIFIED / Answer: A

True under the FAA definition used for this quiz.

The FAA glossary's Snow Depth entry explicitly includes ice pellets, glaze, hail, their combinations, and sheet ice formed directly or indirectly from precipitation. This is the FAA aviation definition; do not replace it with a different cooperative-observer program's hail-accounting convention.

FAA JO 7900.5E with Change 1, Appendix G, Snow Depth, p. 152

17. Under what conditions would an observer with ASOS capability be required to revert to encoding manual observations on the form MF1M-10C?

Select all that apply.

A. ASOS OID fails during clear weather.

B. ASOS OID fails and significant weather is expected.

C. DCP to ACU communications failure and sensor data is not available.

D. Loss of primary long line communications equipment.

NEEDS REVIEW - NOT SCORED

The form requirement in the question is not supported by Change 1: at automated stations, MF1M-10C is not required even when a complete automated-equipment failure requires manual observation reporting.

Section 3.10b explicitly distinguishes manual backup reporting from requiring this form. B may require manual backup under section 6.3g; C may require backup for unavailable data. Neither establishes the stated MF1M-10C obligation. With A, oversight can continue by other means if the report remains representative. D calls for alternate dissemination under section 6.3h, not necessarily manual observation or that form. The question may reflect older training, but no historical key is substituted for the supplied Change 1 authority.

FAA JO 7900.5E with Change 1, 3.10a-b, p. 15

FAA JO 7900.5E with Change 1, 6.3g-h, p. 38-39

18. Which of the following examples can be reported as a ceiling ?

Select all that apply.

A. A broken layer of thin cirrus

B. A layer of fog that obscures 6/8s of the sky.

C. The vertical visibility into snow that obscures the entire sky.

D. A thin broken layer of smoke at 600 feet agl.

VERIFIED / Answer: A, C, D

A, C, and D can constitute a ceiling.

A ceiling is the lowest non-surface-based layer reported BKN/OVC or vertical visibility into a surface-based obscuration totally hiding the sky. Thin layers aloft still count toward sky cover; opacity is not required for A or D. C is total obscuration. Fog is surface-based, and B obscures only 6/8 of the sky, so it is not a vertical-visibility ceiling. 'Can' does not assert that an aloft layer would remain the ceiling if a lower qualifying layer were present.

FAA JO 7900.5E with Change 1, 10.4a, p. 66

FAA JO 7900.5E with Change 1, 10.4h-i, 10.4m-n, p. 67-68

19. Freezing Fog (FZFG) is reported at air temperatures below_____C and prevailing surface visibilities less than_____SM.

A. 1 / 3/4 SM

B. -1 / 1 SM

C. 0 / 5/8 SM

VERIFIED / Answer: C

Below 0 C and visibility less than 5/8 SM.

FAA section 9.3h specifies these strict thresholds for freezing fog. A freezing-fog report does not itself assert that ice is currently depositing on surfaces.

FAA JO 7900.5E with Change 1, 9.3h, p. 55

20. Intermittent precipitation stops and starts at least_____within the hour preceding the observation and, if the intensity changes, it changes_____.

A. Twice / Rapidly

B. Three of more times / Gradually

C. Once / Gradually

D. Twice / Gradually

VERIFIED / Answer: C

At least once; gradually.

Section 9.11b defines intermittent precipitation by at least one stop/start during the preceding hour and gradual intensity changes. Abrupt changes characterize showery precipitation. The printed 'Three of more times' wording in B is retained.

FAA JO 7900.5E with Change 1, 9.11b-c, p. 59