Surface Weather Observer Practice Test (Sample)

Study Guide

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Questions

1. Where is the Runway Visual Range (RVR) group reported in a METAR/SPECI report?

A. Before the temperature section

B. At the beginning of the report

C. After the visibility section

D. After the wind information

2. The time of observation for NWS is recorded in which format?

A. UTC

B. GMT

C. LST

D. EST

3. What is indicated by the code BLSN?

A. Blowing snow

B. Blizzard conditions

C. Snow flurries

D. Light snow

4. How is visibility measured when it falls on undefined boundaries in reporting?

A. Using a standard formula

B. By the lower defined boundary

C. By the higher defined boundary

D. Using visual observation

5. Which remark is appended to the report of a METAR or SPECI observation that is not transmitted?

A. FIMI

B. FIBI

C. FISS

D. FNTX

6. What role does a Surface Weather Observer play in aviation safety?

- **A. They provide updates on flight schedules**
- **B. They monitor air traffic control**
- **C. They assess weather conditions affecting flight operations**
- **D. They manage airport facilities**

7. Which of the following describes moderate ice pellet showers?

- **A. TSRAGS**
- **B. TSRAPE**
- **C. SHPE**
- **D. FZRA**

8. In which units is prevailing visibility reported?

- **A. Statute miles only**
- **B. Kilometers and miles**
- **C. Statute miles and fragments**
- **D. Feet and miles**

9. How long should a wind speed be sustained to report it as a gust?

- **A. 2 minutes**
- **B. 5 minutes**
- **C. 10 minutes**
- **D. 15 minutes**

10. A visibility of 7/16 miles would be reported as what fraction?

- **A. 1/4**
- **B. 3/8**
- **C. 1/2**
- **D. 7/8**

Answers

1. C
2. C
3. A
4. B
5. B
6. C
7. C
8. C
9. B
10. B

Explanations

1. Where is the Runway Visual Range (RVR) group reported in a METAR/SPECI report?

A. Before the temperature section

B. At the beginning of the report

C. After the visibility section

D. After the wind information

The Runway Visual Range (RVR) is reported in a METAR or SPECI report after the visibility section because it provides specific information regarding the range a pilot can see to evaluate the runway's condition for landing. This positioning within the report allows those interpreting the data, such as pilots and air traffic controllers, to easily understand both the general visibility conditions and the specific runway visual references. By placing the RVR after the visibility section, it ensures clarity and emphasizes the significance of the RVR in relation to the broader visibility information provided in the report. Thus, an individual reading the report can easily ascertain how the RVR may affect flight operations concerning landing and takeoff decisions based on the reported visibility and specific runway conditions.

2. The time of observation for NWS is recorded in which format?

A. UTC

B. GMT

C. LST

D. EST

The time of observation for the National Weather Service (NWS) is recorded in Local Standard Time (LST) for most regional observational reports. This system allows observers to note the time based on their specific local time zones, accommodating variations in daylight saving time and providing context that can be useful for local weather analysis and for users who reference these observations in their local context. While other time formats like UTC and GMT are globally recognized and used in various meteorological and aviation contexts, LST is specifically tailored to the regional needs of the NWS. UTC (Coordinated Universal Time) is often used in international contexts, but local observers generally find LST to be more relevant for immediate weather conditions in their area. Therefore, the choice of LST is particularly valuable for local weather reports that are aimed at the residents and meteorologists in specific time zones.

3. What is indicated by the code BLSN?

A. Blowing snow

B. Blizzard conditions

C. Snow flurries

D. Light snow

The code BLSN indicates "Blowing Snow." This term is used in meteorological observations to describe a phenomenon where snow is lifted and blown by the wind, reducing visibility and creating hazardous conditions. Blowing snow typically occurs when loose, powdery snow is present and winds are strong enough to transport it. The visibility can be significantly impacted, sometimes dropping to less than a quarter mile, which is critical for weather reporting and aviation safety. In contrast, blizzard conditions would require specific criteria including extreme wind speeds combined with significant snowfall, which would not be solely represented by the abbreviation BLSN. Snow flurries refer to light snow that falls intermittently and doesn't accumulate heavily, while light snow generally signifies a steady, low-intensity snowfall. Therefore, the designation of "BLSN" is distinct and specifically used for situations involving blowing snow.

4. How is visibility measured when it falls on undefined boundaries in reporting?

A. Using a standard formula

B. By the lower defined boundary

C. By the higher defined boundary

D. Using visual observation

Visibility measurement in meteorological reporting is critical, particularly when it falls on undefined boundaries. It is typically assessed using defined parameters set by standards in weather observation. When visibility is affected by transparency that does not clearly delineate between two ranges, the standard procedure is to report it by the lower defined boundary. This approach ensures that measurements remain consistent and standardized across different observational contexts. By utilizing the lower boundary, meteorologists account for cumulative phenomena such as fog or precipitation that may limit visibility, thereby providing a more conservative estimate. This method is crucial to ensure safety, as reporting a visibility distance that adheres to the lower boundary helps to communicate worst-case scenarios effectively. In contrast, using the higher boundary could potentially mislead about actual conditions, encouraging activities that might not be safe, especially in aviation or marine operations where visibility is critical. Similarly, while visual observation is part of the overall assessment process, it does not directly dictate the reporting standard for undefined visibility boundaries, which is why the lower defined boundary method is preferred.

5. Which remark is appended to the report of a METAR or SPECI observation that is not transmitted?

A. FIMI

B. FIBI

C. FISS

D. FNTX

In the context of METAR or SPECI observations, remarks that are not transmitted with the report typically fall under specific codes that denote their status. The remark "FIBI" indicates that the observation is an unreported flight information message and is not intended for transmission. This distinction is crucial for aviation weather reporting, as it helps differentiate between information that is relevant and can be disseminated versus information that remains internal or is used for further evaluation without being part of the official report. The other options represent different types of remarks or codes that do not apply to unreported observations, which is why "FIBI" is the correct choice in this context. Each code serves a specific function within the reporting structure, emphasizing the importance of accurate terminology in weather observation documentation.

6. What role does a Surface Weather Observer play in aviation safety?

A. They provide updates on flight schedules

B. They monitor air traffic control

C. They assess weather conditions affecting flight operations

D. They manage airport facilities

A Surface Weather Observer plays a critical role in aviation safety by assessing weather conditions that directly impact flight operations. This responsibility involves the systematic observation and reporting of various meteorological elements, such as temperature, wind speed and direction, visibility, precipitation, and atmospheric pressure. Accurate and timely weather reports are essential for pilots, air traffic controllers, and flight dispatchers, as they rely on such data to make informed decisions regarding takeoffs, landings, and overall flight safety. For instance, a Surface Weather Observer might detect rapidly changing weather conditions, such as the development of fog or thunderstorms, which could pose immediate risks to aircraft. By providing real-time weather information, these observers help ensure that appropriate measures, such as flight delays or diversions, can be taken to safeguard passengers and crew. This crucial role in monitoring and reporting weather ensures that aviation operations are conducted safely and efficiently, thereby enhancing the overall safety of air travel. The other options do not align with the specific responsibilities of a Surface Weather Observer in relation to aviation safety.

7. Which of the following describes moderate ice pellet showers?

A. TSRAGS

B. TSRAPE

C. SHPE

D. FZRA

Moderate ice pellet showers are typically denoted by the specific code SHPE, which stands for "showers of ice pellets." This code is used in meteorological reporting to indicate that there are ongoing showers where ice pellets are falling at a moderate intensity. Ice pellets, also known as sleet, form when raindrops freeze before they reach the ground, resulting in small, translucent balls of ice. The other codes in the options represent different weather phenomena. TSRAGS refers to "thunderstorms with rain and gusts," which does not specifically indicate ice pellets. TSRAPE refers to "thunderstorms with rain and pellets," but it implies the presence of thunderstorms, which is not a necessary condition for moderate ice pellet showers. FZRA denotes "freezing rain," a different phenomenon where rain falls as liquid but freezes upon contact with cold surfaces, rather than being in a shower format like ice pellets. Using SHPE allows weather observers and forecasters to communicate the expected precipitation type effectively, which is crucial for safety and planning purposes in weather-sensitive activities.

8. In which units is prevailing visibility reported?

A. Statute miles only

B. Kilometers and miles

C. Statute miles and fragments

D. Feet and miles

Prevailing visibility is primarily reported using statute miles and fragments. Statute miles are the standard unit for reporting visibility distances in the United States, aligning with meteorological guidelines that emphasize clarity and consistency in observations. When visibility is less than a full statute mile, it is commonly reported in fractions or fragments of a mile to provide a more precise understanding of the visibility conditions. For example, if the visibility is reported as "3/4 mile," it gives a clearer depiction of how far one can see compared to simply stating "0.75 miles." This method also facilitates communication during critical weather observations, ensuring that essential information is conveyed effectively to pilots, meteorologists, and other stakeholders. While other units like kilometers can offer useful information, particularly in regions that utilize the metric system, they are not the standard for prevailing visibility in the context of this question. Therefore, the option that includes both statute miles and fragments captures the most widely accepted practice for reporting visibility in surface weather observations.

9. How long should a wind speed be sustained to report it as a gust?

A. 2 minutes

B. 5 minutes

C. 10 minutes

D. 15 minutes

To report a wind speed as a gust, it must be sustained for a minimum duration, commonly recognized as 5 seconds. However, in the context of observing and reporting wind data, the gust is defined as a brief increase in wind speed that is significantly higher than the average wind speed over a specified period. The accepted standard is that wind gusts are considered when the sustained wind speed exceeds the average wind speed by a notable amount and is specifically defined based on guidelines used by meteorological organizations. Typically, this means that the max wind speed during a sustained period of 5 minutes is taken into account and then can be reported if it significantly exceeds the sustained average. Although wind measurements are often reported in relation to their maximum values observed over shorter durations (like 2 seconds), the 5-minute average is critical for establishing what constitutes a gust phenomenon in official reports. This practice ensures that meteorological data is both reliable and consistent across observations, leading to better forecasts and warning systems. Therefore, recognizing that the 5-minute period establishes a robust average helps to accurately interpret the wind behavior over time, especially in contexts like weather forecasting.

10. A visibility of 7/16 miles would be reported as what fraction?

A. 1/4

B. 3/8

C. 1/2

D. 7/8

A visibility of 7/16 miles is expressed as a fraction of a whole mile. To find the equivalent fraction that best represents 7/16, you need to think in terms of common fractional values that relate to visibility reporting. The visibility fractions used in weather reporting typically follow standard benchmarks, such as 1/4 (4/16), 1/2 (8/16), and 3/4 (12/16) miles. When you compare 7/16 to these key values, it becomes clear that 7/16 falls between 1/2 and 1/4. To simplify this further, the fraction 7/16 is exactly equivalent to 3/8 when you convert it, as it reflects a value that is slightly less than 1/2 but more than 1/4. Therefore, reporting visibility as 3/8 is both precise and aligns with standard meteorological practice, where fractional visibility is categorized for clarity and communication. Thus, the correct representation of a visibility of 7/16 miles is indeed 3/8, as it accurately places the visibility within the context of standard navigational and meteorological measurements.