Air Force Manual (AFMAN) 15-111 Practice Test (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. These reports are from credible sources within 15 statute miles and will be appended in the remarks of the observation during AMOS augmentation. What are they?

A. Unofficial reports of severe weather

B. Official severe weather reports

C. Verified weather warnings

D. Public alerts

2. Which system will always be considered automated, even when a weather technician augments or backs up an observation?

A. Automated Stations

B. AMOS

C. ASOS

D. AWOS

3. Which entity establishes METAR file times between H+55 and H+59 past the hour?

A. Base Weather Unit

B. Weather Control Center

C. Operational Weather Team

D. Exploitation units (EU)

4. What will be an evaluation of sensor data gathered during the 30-minute period ending at the actual time of the observation?

A. Automated Observations

B. Sky condition

C. Automated observation

D. Automated observation, sky condition

5. What must be determined at each observing location to convert wind direction from magnetic to true?

A. True North Variation

B. Local Magnetic Variation

C. Wind Correction Factor

D. Magnetic Declination Variation

6. From the DoD FLIPs or the Tactical Plotting Chart for your area, you can obtain which information?

A. Local variation

B. Obtain local magnetic variation

C. True north direction

D. Magnetic inclination

7. Which group is advised to develop map-type visibility charts to augment photographic visibility markers?

A. Observing locations.

B. Deployed locations.

C. Aircraft Mishap.

D. Control Tower Visibility Aids.

8. Which system uses time averaging of sensor data?

A. Automated Observations

B. LOCAL

C. Automated Meteorological Observing Systems (AMOS)

D. AMOS Observing System

9. Altimeter settings provided for international aviation purposes and reported in whole hectopascals are rounded down when disposing of tenths of hPa (e.g., 1009.9 hPa and 1009.1 hPa are both rounded down to 1009 hPa).

A. Rounded to nearest

B. Rounded down

C. Rounded up

D. Truncated

10. Weather technicians will also ensure ATC personnel can operate the applicable weather equipment in where?

A. Hangar

B. ATC facilities

C. Control tower

D. Airfield operations

Answers

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

Explanations

1. These reports are from credible sources within 15 statute miles and will be appended in the remarks of the observation during AMOS augmentation. What are they?

A. Unofficial reports of severe weather

B. Official severe weather reports

C. Verified weather warnings

D. Public alerts

During AMOS augmentation, the system can include ground-truth observations from nearby sources within 15 statute miles to supplement automated data. These reports come from credible observers on the ground and are added to the remarks of the observation to provide real-time, localized information about severe weather conditions. They are considered unofficial regarding formal issuance, because they are not issued as official weather products by a forecast office, but they remain reliable and timely for operational use. They are not official severe weather reports, not formal weather warnings, and not public alerts, which are issued through official channels.

2. Which system will always be considered automated, even when a weather technician augments or backs up an observation?

A. Automated Stations

B. AMOS

C. ASOS

D. AWOS

Automation in weather observations means the sensors and data systems operate on their own, producing readings without requiring a human observer. If a weather technician augments or backs up a reading, the underlying system is still automated—the human action is supplemental, not the method by which data are collected. That makes Automated Stations the best answer because it designates the system itself as automatic, regardless of any occasional human involvement. The other options describe specific automated observing systems that can still rely on human augmentation or backup in certain situations, so they aren't guaranteed to be classified as automated in every scenario.

3. Which entity establishes METAR file times between H+55 and H+59 past the hour?

A. Base Weather Unit

B. Weather Control Center

C. Operational Weather Team

D. Exploitation units (EU)

The time window for establishing METAR file times is managed by Exploitation Units because they oversee the dissemination of weather products to the operational theater. They coordinate the flow of observations from sensors into METARs and push the freshest data into users just before the hour ends, ensuring meteorological updates are current for the upcoming planning and execution cycle. The Base Weather Unit generates and packages METARs, but the policy setting that determines this late-hour timing is handled by the exploitation units to maintain a consistent, timely cadence across the operation.

4. What will be an evaluation of sensor data gathered during the 30-minute period ending at the actual time of the observation?

A. Automated Observations

B. Sky condition

C. Automated observation

D. Automated observation, sky condition

The test is asking about what the automated system evaluates using sensor data from the 30 minutes leading up to the exact moment of the observation. In automated weather reporting, readings from sensors are processed to produce an automated observation, which captures the measured values like temperature, dew point, wind, visibility, etc. At the same time, the system evaluates the sky condition—the cloud cover and heights—based on sensor data and the observation moment. Because both the automated measurements and the sky condition are determined from that 30-minute data window and reported together, the correct characterization is that the evaluation includes both automated observation data and sky condition. The other options are incomplete because they cover only one part of what's produced in the final observation.

5. What must be determined at each observing location to convert wind direction from magnetic to true?

A. True North Variation

B. Local Magnetic Variation

C. Wind Correction Factor

D. Magnetic Declination Variation

To convert wind direction from magnetic to true you must know the local magnetic variation at the observing location. Magnetic variation is the angle between magnetic north and true north, and it varies by location and over time. With that local variation, you adjust the magnetic wind direction to get the true direction: if the variation is east, add it; if west, subtract it. For example, a magnetic wind direction of 270 degrees with a local variation of 10 degrees east becomes 280 degrees true. If the variation is 12 degrees west, the true direction would be 270 minus 12, or 258 degrees. This local variation is the specific factor you need at that location to translate magnetic references to true references.

6. From the DoD FLIPs or the Tactical Plotting Chart for your area, you can obtain which information?

A. Local variation

B. Obtain local magnetic variation

C. True north direction

D. Magnetic inclination

The information you pull from DoD FLIPs or a Tactical Plotting Chart is the local magnetic variation. This shows how far and in what direction magnetic north differs from true (geographic) north for your area. With that variation, you can convert between true headings and magnetic headings used in plotting and navigation. The rule is simple: Magnetic heading equals true heading plus variation (add if the variation is east, subtract if it's west). For example, a true course of 045 degrees with east variation of 12 degrees becomes a magnetic course of 057 degrees; if the variation is west 12 degrees, the magnetic course would be 033 degrees. The other options aren't what these charts provide: true north direction is just the grid's orientation, and magnetic inclination (dip) is a different magnetic parameter not shown on standard plotting charts.

7. Which group is advised to develop map-type visibility charts to augment photographic visibility markers?

A. Observing locations.

B. Deployed locations.

C. Aircraft Mishap.

D. Control Tower Visibility Aids.

The idea here is to plan and communicate what is visible from specific observation points by turning sight lines and visibility ranges into a map-style chart. Observing locations are the ones that monitor and record what can be seen from fixed points, so they're the group best suited to create these charts. These maps help them visualize coverage, identify gaps, and line up photographic visibility markers with actual visibility from those points, making the markers easier to verify and use consistently. The other groups don't align with this task: deployed locations are field units, while aircraft mishap and control tower visibility aids relate to investigations or aviation operations rather than developing and using visibility charts for observer markers.

8. Which system uses time averaging of sensor data?

A. Automated Observations

B. LOCAL

C. Automated Meteorological Observing Systems (AMOS)

D. AMOS Observing System

Time averaging of sensor data is a technique used in automated weather observing to smooth out short-term fluctuations and sensor noise, producing stable values that represent conditions over a defined interval. The system built specifically for automated meteorological observations and that implements this averaging is the Automated Meteorological Observing System. It gathers raw data from instruments like temperature, humidity, pressure, wind, and precipitation, then computes averaged values over the chosen interval before reporting. This makes AMOS the system that uses time averaging of sensor data. The other options are either too generic or refer to a different or less standard naming, so they don't pinpoint the mechanism as precisely.

9. Altimeter settings provided for international aviation purposes and reported in whole hectopascals are rounded down when disposing of tenths of hPa (e.g., 1009.9 hPa and 1009.1 hPa are both rounded down to 1009 hPa).

A. Rounded to nearest

B. Rounded down

C. Rounded up

D. Truncated

Altimeter settings for international aviation are given in whole hectopascals with any tenths discarded, which is rounding down. In practice, that means you take the floor of the pressure value: 1009.9 hPa becomes 1009 hPa, and 1009.1 hPa also becomes 1009 hPa. This standardizes the values and provides a conservative margin for safety—using a slightly lower pressure value makes the aircraft's altimeter read a bit higher, helping ensure clearance from terrain and obstacles. Rounding to the nearest would sometimes push 1009.9 up to 1010 hPa, which could shorten the actual altitude and reduce safety margins. Rounding up would similarly push values higher. Truncating or rounding down are effectively the same for positive numbers in this context, but the phrasing here uses rounding down, matching the stated practice.

10. Weather technicians will also ensure ATC personnel can operate the applicable weather equipment in where?

A. Hangar

B. ATC facilities

C. Control tower

D. Airfield operations

This question is about making sure weather data and equipment are available where air traffic controllers actually do their job. Weather technicians verify that the applicable weather equipment is operable inside the spaces used by ATC personnel so they can access real-time information without leaving their work area. That means the equipment should be functional within ATC facilities—such as the control tower and other ATC workspaces—so controllers can monitor conditions and make timely decisions. Choosing the hangar would place the equipment outside the controllers' operational area, delaying access during critical moments. The control tower is part of ATC facilities, but the broader idea is ensuring operability within the ATC work environment, not just one specific location. Airfield operations, while related, isn't the primary place ATC relies on the weather equipment for day-to-day control duties.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://afman15111.examzify.com

We wish you the very best on your exam journey. You've got this!