ASA AVIATION MAINTENANCE TECHNICIAN GENERAL PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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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!

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Questions

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1. What is electrical current?

A. The flow of electrons in a circuit

B. Voltage across a component

C. Resistance to current

D. Power supplied by the source

2. What is meant by moment in the computation of weight and balance?

A. A force that tends to cause rotation. It is the product of the weight of an object in pounds and the distance of the object from the datum in inches.

B. A force equal to the object's weight.

C. The distance from the datum.

D. The sum of all forces.

3. Why is it necessary to consider the category under which an aircraft is licensed when computing its weight and balance?

A. Different categories have different maximum gross weights and different center of gravity ranges.

B. It changes the color of placards.

C. It affects the warranty terms.

D. It determines the required number of crew.

4. Double flare tubing materials include which of the following ranges?

A. 1/8 inch to 3/8 inch outer diameter aluminum alloy tubing

B. 1/4 inch to 1/2 inch outer diameter aluminum tubing

C. 3/8 inch to 1/2 inch outer diameter aluminum tubing

D. 5052-O and 6061-T aluminum alloy tubing in sizes from 1/8 inch to 3/8 inch OD

5. In the designation AN6-14A, what does the suffix 'A' indicate?

A. The shank is not drilled for a cotter pin.

B. The shank is drilled for a cotter pin.

C. The bolt has a different zinc coating.

D. The bolt is left-hand threaded.

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6. Where is the center of gravity for most airplanes located in relation to the center of lift?

A. Behind the center of lift.

B. Ahead of the center of lift.

C. Coinciding with the center of lift.

D. Far above the center of lift.

7. Which document specifies the type of fuel that should be used in an airplane?

A. The TCDS for that airplane.

B. The aircraft registration certificate.

C. The maintenance manual.

D. The airworthiness directive.

8. Which term describes one fourth of a circle?

A. Sector.

B. Radius.

C. Diameter.

D. Quadrant.

9. What determines the mechanical advantage of a gear train?

A. The ratio between the number of teeth on the drive gear and the driven gear.

B. The diameter of the load gear.

C. The total weight of gears.

D. The number of gears in the train.

10. In the designation AN6-14A, what does the '6' indicate?

A. Hex head bolt

B. Diameter 1/4 inch

C. Diameter 3/8 inch

D. Diameter 1/2 inch

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Answers

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

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Explanations

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1. What is electrical current?

A. The flow of electrons in a circuit

B. Voltage across a component

C. Resistance to current

D. Power supplied by the source

Electrical current is the rate at which electric charge moves through a conductor. In a typical metal circuit, the charge carriers are electrons, so current reflects the flow of electrons through the wires. The amount of charge passing a point per second defines the current, measured in amperes. Some diagrams use the conventional direction of current (opposite to electron flow), but the magnitude represents how much charge is moving. The other terms describe different concepts: voltage is the push that drives charge, resistance is what opposes that flow, and power is the rate at which energy is transferred. Since current specifically describes the moving charge, the description of current as the flow of electrons in a circuit is the best match.

2. What is meant by moment in the computation of weight and balance?

A. A force that tends to cause rotation. It is the product of the weight of an object in pounds and the distance of the object from the datum in inches.

B. A force equal to the object's weight.

C. The distance from the datum.

D. The sum of all forces.

Moment is the rotational effect a force has when it acts at a distance from a reference point. In weight and balance, every item has a weight (a downward force) and an arm (the distance from the datum to where the item sits). The moment is the product of those two: weight in pounds times the arm in inches, giving moment in pound-inches. This is the quantity you use to see how much each item tends to rotate the aircraft about the datum, and to determine the overall center of gravity. To find the aircraft's CG, you multiply each item's weight by its arm to get its moment, add up all those moments for a total moment, then divide by the total weight. The distance alone doesn't tell you how the aircraft will rotate, and the sum of forces would just be total weight, not how that weight is distributed.

3. Why is it necessary to consider the category under which an aircraft is licensed when computing its weight and balance?

A. Different categories have different maximum gross weights and different center of gravity ranges.

B. It changes the color of placards.

C. It affects the warranty terms.

D. It determines the required number of crew.

The weight-and-balance calculation must align with the aircraft's certified loading envelope, which is defined by its licensed category. Different categories specify different maximum gross weights and allowable center-of-gravity ranges, so using the correct category ensures the calculated weight and balance stay within the aircraft's certified limits. If you apply the wrong envelope, you could exceed the aircraft's structural or stability limits, leading to unsafe conditions. The other options don't fit. Placard color isn't part of the math, warranty terms aren't about loading limits, and the category doesn't determine the required number of crew—the crew count is a separate regulatory or mission requirement, while weight and balance focuses on how all loads and occupants affect weight and CG within the category's limits.

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4. Double flare tubing materials include which of the following ranges?

A. 1/8 inch to 3/8 inch outer diameter aluminum alloy tubing

B. 1/4 inch to 1/2 inch outer diameter aluminum tubing

C. 3/8 inch to 1/2 inch outer diameter aluminum tubing

D. 5052-O and 6061-T aluminum alloy tubing in sizes from 1/8 inch to 3/8 inch OD

Double flare tubing uses ductile aluminum that can be formed without cracking and still seal reliably under pressure. The commonly used sizes for aviation tubing are 1/8 inch to 3/8 inch outer diameter, which is the range that fits standard flare fittings and is easy to form without work-hardening issues. The alloys listed—5052-O and 6061-T—cover the typical needs: 5052-O is a soft, highly ductile alloy that flares smoothly and resists corrosion, while 6061-T provides greater strength for certain lines. Together, they represent the practical combination of ductility, strength, and compatibility with aviation fittings within the standard size range. The other options either give out-of-range diameters or don't specify the appropriate alloy types, so they don't align with how double flare tubing is typically selected and used.

5. In the designation AN6-14A, what does the suffix 'A' indicate?

A. The shank is not drilled for a cotter pin.

B. The shank is drilled for a cotter pin.

C. The bolt has a different zinc coating.

D. The bolt is left-hand threaded.

The suffix on an AN bolt tells you whether the shank is drilled for a cotter pin. In this designation, the suffix indicates the shank is not drilled, so there is no cotter pin hole. That's why the correct interpretation is that the shank is not drilled for a cotter pin. The other options describe features (drilled shank, coating, or threading direction) that are not indicated by this suffix.

6. Where is the center of gravity for most airplanes located in relation to the center of lift?

A. Behind the center of lift.

B. Ahead of the center of lift.

C. Coinciding with the center of lift.

D. Far above the center of lift.

Longitudinal stability is achieved when the center of gravity is ahead of the center of lift. The weight acts through the CG, while lift effectively acts at the center of lift. If the aircraft pitches up, the lift increases and acts behind the CG, creating a nose-down moment that tends to restore the level attitude. This restoring torque is what keeps the airplane stable. If the CG were behind the center of lift, a pitch disturbance would produce a nose-up moment and the airplane could become unstable, tending to rotate further away from level flight. For most airplanes, placing the CG forward of the center of lift provides that positive static stability, with the aerodynamic center of the wing near the 25% chord region serving as a reference.

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7. Which document specifies the type of fuel that should be used in an airplane?

A. The TCDS for that airplane.

B. The aircraft registration certificate.

C. The maintenance manual.

D. The airworthiness directive.

Fuel type is defined by the aircraft's official certification documentation. The Type Certificate Data Sheet lists the approved fuels for the engine installations and is the authoritative reference for what can be used in that airplane. It ties directly to the certification basis and limitations established when the aircraft was certified, so it's the correct source to determine permitted fuels. The other documents serve different roles. The registration certificate confirms ownership and nationality but not operating limits. The maintenance manual covers how to perform maintenance and may include fuel handling procedures, but it's not the primary source for which fuels are approved. An airworthiness directive addresses a safety issue and required actions; it does not specify which fuel is allowed.

8. Which term describes one fourth of a circle?

A. Sector.

B. Radius.

C. Diameter.

D. Quadrant.

A circle has 360 degrees, so dividing it into four equal parts gives each part a 90-degree central angle. That portion is called a quadrant. It's a specific type of sector, defined by two radii that form a 90-degree angle and the arc between them, which together comprise one quarter of the circle. The other terms describe different things: a radius is a line from the center to the edge, a diameter is a line that goes across the circle through the center, and a sector can be any wedge with any central angle. Since we're talking about one quarter of the circle, the correct term is quadrant.

9. What determines the mechanical advantage of a gear train?

A. The ratio between the number of teeth on the drive gear and the driven gear.

B. The diameter of the load gear.

C. The total weight of gears.

D. The number of gears in the train.

Mechanical advantage in a gear train comes from the gear ratio, which is set by how many teeth the gears have (or their pitch diameters). In a simple gear pair, the tangential speed at the tooth pitch must match, so the output speed relates to the input speed by the ratio of the gear teeth: the speed of the driven gear is the input speed times the drive teeth divided by the driven teeth. The torque relationship is the inverse: the output torque equals the input torque multiplied by the driven teeth divided by the drive teeth. So, when the driven gear has more teeth than the drive gear, you get more output torque (greater mechanical advantage) but slower output speed; when the driven gear has fewer teeth, you get less torque and faster speed. That's why the gear ratio—the ratio of teeth counts between drive and driven gears—determines the mechanical advantage. The diameter of the load gear and the total weight don't determine MA by themselves, and adding more gears changes possible ratios but not the fundamental determinant.

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10. In the designation AN6-14A, what does the '6' indicate?

A. Hex head bolt

B. Diameter 1/4 inch

C. Diameter 3/8 inch

D. Diameter 1/2 inch

In AN fastener designations, the number after AN is the diameter, expressed in sixteenths of an inch. So a 6 means 6/16 inch, which simplifies to 3/8 inch. Therefore, AN6-14A uses a bolt whose nominal diameter is 3/8 inch. The rest of the dash code (like 14A) encodes grip length and other features, but the key point for the question is that the 6 indicates a 3/8 inch diameter.

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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://asaaviationmainttechgen.examzify.com

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

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