

CASA Aircraft General Knowledge (AGK) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

| | |
|------------------------------------|-----------|
| Copyright | 1 |
| Table of Contents | 2 |
| Introduction | 3 |
| How to Use This Guide | 4 |
| Questions | 5 |
| Answers | 8 |
| Explanations | 10 |
| Next Steps | 16 |

SAMPLE

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

SAMPLE

- 1. What does the acronym 'GPS' stand for?**
 - A. Global Positioning System**
 - B. Geospatial Piloting Software**
 - C. General Navigation Protocol**
 - D. Ground Positioning System**

- 2. What factors influence the volumetric efficiency of an engine?**
 - A. Fuel quality, engine load, and RPM**
 - B. Throttle positions, ambient temperature, ambient pressure and RPM**
 - C. Engine size and maximum power output**
 - D. Altitude and humidity**

- 3. What does no RPM drop during a magneto check suggest about the left magneto?**
 - A. The left magneto is unserviceable**
 - B. The left magneto is functioning normally**
 - C. The left magneto is operating at high efficiency**
 - D. The left magneto is overloading the system**

- 4. What is indicated airspeed (IAS)?**
 - A. The speed a pilot plans to fly**
 - B. The speed shown on the airspeed indicator, reflecting dynamic air pressure**
 - C. The speed at which an aircraft performs maneuvers**
 - D. The maximum speed allowed by regulations**

- 5. What is the main function of a flight control surface?**
 - A. To provide power to the engines**
 - B. To change the aircraft's pitch, roll, or yaw**
 - C. To maintain cabin pressure**
 - D. To monitor weather conditions**

- 6. What does the altimeter rely on to function effectively?**
- A. Fuel pressure**
 - B. Static air pressure**
 - C. Magnetic fields**
 - D. Speed of the aircraft**
- 7. What occurs if a propeller governor senses over speed?**
- A. Shifts the propeller blades towards coarse pitch**
 - B. Shifts the propeller blades towards fine pitch**
 - C. Increases RPM drastically**
 - D. Decreases propeller torque**
- 8. How does wing shape affect an aircraft's lift?**
- A. By influencing the weight distribution across the wings**
 - B. By altering the airflow characteristics around the wing**
 - C. By determining the overall length of the aircraft**
 - D. By controlling the engine thrust at various speeds**
- 9. How does the aircraft's weight affect its takeoff performance?**
- A. Increased weight requires a longer takeoff distance and higher speed for takeoff**
 - B. Decreased weight requires a shorter takeoff distance and lower speed for takeoff**
 - C. Weight has no impact on takeoff performance**
 - D. Higher weight improves climb performance**
- 10. What are the consequences of operating an aircraft outside of its maintenance schedule?**
- A. It leads to better fuel efficiency**
 - B. It increases the aircraft's resale value**
 - C. It may lead to safety issues and potential system failures**
 - D. It has no significant consequences**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What does the acronym 'GPS' stand for?

- A. Global Positioning System**
- B. Geospatial Piloting Software**
- C. General Navigation Protocol**
- D. Ground Positioning System**

The acronym 'GPS' stands for Global Positioning System, which is a satellite-based navigation system used worldwide. It allows users to determine their precise location (latitude, longitude, and altitude) anywhere on Earth, provided they have a clear line of sight to multiple satellites. The system functions through a network of satellites that continuously transmit their location and time data. This information is used by GPS receivers to triangulate the user's position, making it an invaluable tool for aviation, navigation, and various other applications that require accurate geographical positioning. Understanding the term's correct definition is crucial, especially in the context of aviation, where precise navigation is essential for safety and efficiency. Other options, while they may sound somewhat related, do not accurately capture the purpose and technology behind GPS.

2. What factors influence the volumetric efficiency of an engine?

- A. Fuel quality, engine load, and RPM**
- B. Throttle positions, ambient temperature, ambient pressure and RPM**
- C. Engine size and maximum power output**
- D. Altitude and humidity**

Volumetric efficiency is a measure of the engine's ability to fill its cylinders with air (or air-fuel mixture) during the intake stroke relative to the total cylinder volume. High volumetric efficiency indicates that an engine can take in more air, which can lead to better combustion and increased power output. The factors influencing volumetric efficiency include throttle position, ambient temperature, ambient pressure, and RPM. Throttle position determines how much air can enter the engine, directly affecting the amount of air (and fuel) that participates in combustion. Ambient temperature and pressure affect air density; higher temperatures can lower density, while higher pressures can increase it. This means that the engine will inhale more or less air depending on these conditions. Finally, RPM is crucial as the engine's speed impacts the time available for air to flow into the cylinders. As RPM increases, it can lead to improved airflow and thus higher volumetric efficiency, up to the point of engine design limitations. Other factors like fuel quality, engine load, and altitude do play roles in overall engine performance, but the most direct influences on volumetric efficiency are encapsulated in the parameters listed in the correct answer.

3. What does no RPM drop during a magneto check suggest about the left magneto?

- A. The left magneto is unserviceable**
- B. The left magneto is functioning normally**
- C. The left magneto is operating at high efficiency**
- D. The left magneto is overloading the system**

When performing a magneto check, a no RPM drop during the test typically indicates a problem with the magneto system. Specifically, if there is no reduction in engine RPM while switching to the left magneto, it suggests that the left magneto is not delivering spark to the engine cylinders as it should. In normal operation, when the magneto switch is changed from the "Both" position to either "Left" or "Right," you should see a slight drop in RPM due to the fact that the engine is momentarily running on only one magneto. If there is no RPM drop when switching to the left magneto, this suggests that the left magneto is unserviceable or that it is not providing the necessary ignition to the engine. This scenario could arise from several issues such as a defective magneto, a malfunctioning lead, or other failures within that specific ignition system. Hence, the observation of no RPM drop is indicative of an unserviceable left magneto.

4. What is indicated airspeed (IAS)?

- A. The speed a pilot plans to fly**
- B. The speed shown on the airspeed indicator, reflecting dynamic air pressure**
- C. The speed at which an aircraft performs maneuvers**
- D. The maximum speed allowed by regulations**

Indicated airspeed (IAS) is defined as the speed shown on the airspeed indicator, which is influenced by dynamic air pressure as the aircraft moves through the air. This measurement is crucial because it directly reflects the aircraft's performance, including lift, drag, and fuel efficiency, relative to the surrounding air. IAS is essential for pilots as it provides them with real-time data necessary for safe flying, allowing them to manage the aircraft's speed appropriately in various flight modes such as takeoff, cruising, and landing. While planning the speed for flight is an important aspect of operational procedures, indicated airspeed specifically refers to the reading on the airspeed gauge rather than a predetermined speed or an operational target. Similarly, although a certain speed is beneficial for executing maneuvers, IAS itself is not defined by the maneuvering capabilities of the aircraft. Additionally, regulations regarding maximum speeds do not pertain to IAS as a standard measure; instead, IAS is an operational variable that can be influenced by factors like altitude and aircraft configuration. So, the specific and technical definition of indicated airspeed is accurately captured by the description of dynamic air pressure reflected on the airspeed indicator.

5. What is the main function of a flight control surface?

- A. To provide power to the engines
- B. To change the aircraft's pitch, roll, or yaw**
- C. To maintain cabin pressure
- D. To monitor weather conditions

The main function of a flight control surface is to change the aircraft's pitch, roll, or yaw, which directly affects the aircraft's orientation and movement in the air. Flight control surfaces, which include ailerons, elevators, and rudders, are crucial for maneuvering the aircraft. When pilots manipulate these surfaces using the control yoke or stick, they can control and adjust the aircraft's flight path efficiently and safely. Each type of control surface serves a specific purpose: ailerons control roll (tilting the wings), elevators control pitch (nose up or down), and rudders manage yaw (side-to-side movement). This dynamic interaction among the control surfaces allows pilots to execute various maneuvers and maintain stable flight, especially during critical phases like takeoff, landing, or during turbulence. The other options present functions that do not pertain directly to flight control surfaces. Providing power to the engines is associated with the propulsion systems, maintaining cabin pressure is linked to environmental control systems, and monitoring weather conditions falls under the purview of avionics and meteorological instruments rather than flight control. Understanding the specific role of flight control surfaces is essential for grasping basic aircraft operations and ensuring effective piloting.

6. What does the altimeter rely on to function effectively?

- A. Fuel pressure
- B. Static air pressure**
- C. Magnetic fields
- D. Speed of the aircraft

The altimeter functions effectively by measuring static air pressure. In aviation, the altimeter is an instrument that indicates the altitude of an aircraft above a reference level, typically sea level. It does this by utilizing the principle that as an aircraft ascends or descends, the atmospheric pressure changes. As the aircraft gains altitude, the air pressure decreases; conversely, as it descends, the pressure increases. The altimeter is calibrated with the standard atmospheric pressure, allowing it to convert changes in static air pressure into a corresponding altitude reading. This reliance on static air pressure is crucial for pilots to maintain an accurate understanding of their altitude, which ensures safe navigation and adherence to air traffic regulations. Other options such as fuel pressure, magnetic fields, and aircraft speed do not provide the necessary information needed for altitude measurement. Fuel pressure pertains to the fuel system, magnetic fields are related to navigation (such as compasses), and the speed of the aircraft is relevant for performance calculations but not for determining altitude. Thus, the accurate functioning of the altimeter is fundamentally tied to static air pressure.

7. What occurs if a propeller governor senses over speed?

- A. Shifts the propeller blades towards coarse pitch**
- B. Shifts the propeller blades towards fine pitch**
- C. Increases RPM drastically**
- D. Decreases propeller torque**

When a propeller governor detects an over speed condition, its primary function is to protect the engine and maintain safe operating conditions. In response to over speed, the governor shifts the propeller blades towards a coarse pitch. This action reduces the angle of attack of the blades, which effectively decreases the thrust produced by the propeller. By moving to a coarser pitch, the propeller allows for reduced RPM, thereby bringing the engine speed back within the safe operational limits. This response is critical because over speed can lead to potential mechanical failure or engine damage. Regulatory systems are in place within the propeller governor to ensure that the RPM does not exceed safety thresholds, contributing to the overall reliability and efficiency of the aircraft's propulsion system.

8. How does wing shape affect an aircraft's lift?

- A. By influencing the weight distribution across the wings**
- B. By altering the airflow characteristics around the wing**
- C. By determining the overall length of the aircraft**
- D. By controlling the engine thrust at various speeds**

The influence of wing shape on an aircraft's lift primarily hinges on how it alters the airflow characteristics around the wing. The design of the wing, including aspects such as its airfoil shape, aspect ratio, and angle of attack, directly impacts how air flows over and under the wing. As air moves over the wing, the shape determines the speed of the airflow—faster airflow creates lower pressure above the wing compared to the higher pressure air beneath it. This pressure difference generates lift, which is crucial for an aircraft's ability to rise into the air and maintain flight. Moreover, different wing shapes can be optimized for varying flight conditions. For instance, wider wings or those with a higher aspect ratio are generally better for gliding and slow flight, while more pointed, narrower wings can reduce drag and improve speed in instance of higher performance aircraft. While weight distribution across the wings, the overall length of the aircraft, and engine thrust are important factors in aircraft performance, they do not directly influence the fundamental aerodynamic principle of lift generation as wing shape does. Therefore, the correct answer underscores the critical role that wing shape plays in modifying airflow characteristics, which is key to effective lift generation.

9. How does the aircraft's weight affect its takeoff performance?

- A. Increased weight requires a longer takeoff distance and higher speed for takeoff**
- B. Decreased weight requires a shorter takeoff distance and lower speed for takeoff**
- C. Weight has no impact on takeoff performance**
- D. Higher weight improves climb performance**

The relationship between an aircraft's weight and its takeoff performance is crucial for understanding how an aircraft operates. When the weight of the aircraft increases, it necessitates a longer takeoff distance because a heavier aircraft requires more lift to become airborne. Lift is generated by the wings as the aircraft moves through the air, and to achieve the necessary lift for takeoff, the aircraft must reach a higher speed. This means that more thrust is needed from the engines to overcome both the weight and the drag associated with the increased mass. Thus, with increased weight, pilots must be aware of their required takeoff distances and may need to adjust their flight plan based on aircraft load. In contrast, decreased weight allows an aircraft to take off in a shorter distance and at a lower speed because less lift is required to become airborne, illustrating the direct impact weight has on performance. However, the statement that weight has no impact on takeoff performance is not accurate, as it overlooks fundamental aerodynamics and aircraft operating principles. Additionally, the assertion that higher weight improves climb performance misrepresents how increased weight generally hinders climb performance due to the additional lift required to ascend. Understanding these dynamics is essential for safe and effective aircraft operation.

10. What are the consequences of operating an aircraft outside of its maintenance schedule?

- A. It leads to better fuel efficiency**
- B. It increases the aircraft's resale value**
- C. It may lead to safety issues and potential system failures**
- D. It has no significant consequences**

Operating an aircraft outside its maintenance schedule can have serious implications, primarily concerning safety and the reliability of the aircraft's systems. Maintenance schedules are designed to ensure that all components and systems of an aircraft are functioning correctly and are in safe working order. These schedules include regular inspections, servicing, and part replacements that adhere to regulatory standards and manufacturer guidelines. When an aircraft is not maintained according to the prescribed schedule, it may not receive necessary checks and repairs. This can result in undetected wear, fatigue, or failure of critical systems, ultimately leading to safety issues that could endanger both the crew and passengers. Furthermore, system failures can occur unexpectedly during flight, presenting a high risk situation that may compromise the integrity of the aircraft and lead to accidents or incidents. In contrast, options suggesting improved fuel efficiency or increased resale value are unfounded, as neglecting maintenance typically leads to lower performance and decreased reliability. Similarly, the idea that there are no significant consequences overlooks the fundamental importance of maintaining aviation safety standards, which are paramount in the operation of any aircraft.

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://casaagk.examzify.com>

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

SAMPLE