

AIRCRAFT CHARACTERISTICS PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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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

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1. Which statement defines absolute ceiling?

- A. Absolute ceiling is the highest altitude with zero climb.
- B. Absolute ceiling is the altitude with maximum speed.
- C. Absolute ceiling is the altitude where drag is zero.
- D. Absolute ceiling is the maximum altitude with zero thrust.

2. What does Vne represent on aircraft placards?

- A. Maximum speed in which structural damage will occur.
- B. Stall speed in iced conditions.
- C. Minimum controllable airspeed.
- D. Maximum speed not to be exceeded without risking structural damage.

3. The Citation 10 is assigned which code?

- A. BE40
- B. C750
- C. LJ55
- D. T38

4. What is the effect of spoilers/dive brakes on speed and descent rate?

- A. Spoilers increase drag and lift, enabling steeper descents.
- B. Spoilers increase drag and reduce lift, enabling steeper descents and lower speeds.
- C. Spoilers decrease drag and increase lift, improving descent rate.
- D. Spoilers have no effect on descent rate.

5. Glide ratio is defined as what?

- A. Horizontal distance traveled per altitude gained.
- B. Horizontal distance traveled per unit of altitude lost.
- C. Altitude gained per unit of horizontal distance traveled.
- D. Energy required to reach a landing site.

6. Which aircraft is associated with the nickname Super King Air?

- A. B350
- B. C441
- C. DH8
- D. SF34

7. The Piper Cherokee corresponds to which model number?

- A. PA24
- B. C210
- C. PA32
- D. BE36

8. Which statement about static stability vs dynamic stability in pitch is correct?

- A. Static stability is the initial tendency to return to trim after a disturbance; dynamic stability describes how the motion decays over time.
- B. Static stability describes how motion decays over time; dynamic stability is the initial response.
- C. Static stability refers to yaw behavior; dynamic stability refers to roll behavior.
- D. Static stability is a function of altitude; dynamic stability is a function of airspeed.

9. Dehavilland-8 maps to which code?

- A. C130
- B. DH8D
- C. DH8
- D. SF34

10. The Cessna Skylane corresponds to which model number?

- A. C182
- B. C172
- C. PA24
- D. BE36

Answers

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

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Explanations

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1. Which statement defines absolute ceiling?

- A. Absolute ceiling is the highest altitude with zero climb.
- B. Absolute ceiling is the altitude with maximum speed.
- C. Absolute ceiling is the altitude where drag is zero.
- D. Absolute ceiling is the maximum altitude with zero thrust.

Absolute ceiling is the highest altitude at which an airplane can maintain level flight with the power available; at that point the rate of climb is zero. In other words, you can climb up to this altitude, but beyond it you cannot gain altitude because there isn't enough excess thrust to overcome the increasing drag and thinning air. That's why the phrase "the highest altitude with zero climb" fits the concept—the aircraft can't climb any higher with the power it has. This isn't about the speed you can reach at altitude, nor about drag becoming zero (drag never vanishes in normal flight), and it isn't defined as the altitude with zero thrust.

2. What does Vne represent on aircraft placards?

- A. Maximum speed in which structural damage will occur.
- B. Stall speed in iced conditions.
- C. Minimum controllable airspeed.
- D. Maximum speed not to be exceeded without risking structural damage.

Vne is the never-exceed speed—the upper limit of safe flight for an aircraft. It represents the maximum speed you should not exceed because pushing beyond it can push the structure and controls beyond what they're certified to handle, leading to structural damage, loss of control, or flutter. This placard speed is a hard limit used to keep flight within the aircraft's design and certification envelopes, often shown as a redline on the airspeed indicator. It isn't the stall speed, which is the speed at which the wing stops producing enough lift to sustain flight, nor the minimum controllable airspeed, which is near the stall boundary where handling becomes uncertain. It also isn't simply the speed at which damage will occur under any circumstance; it's the maximum safe speed you must not exceed to avoid approaching those high-risk conditions.

3. The Citation 10 is assigned which code?

- A. BE40
- B. C750
- C. LJ55
- D. T38

Aircraft type designators are ICAO codes ATC uses to identify specific airplane models. The Citation 10 is a Cessna business jet, so its designator starts with the manufacturer code for Cessna, then the model identifier. The Cessna Citation X/10 family is designated as C750. Other codes refer to different manufacturers or models (for example, Beechcraft BE40, Learjet LJ55, and the Northrop T-38 trainer), so they don't match the Citation 10. The code that represents the Citation 10 is C750.

4. What is the effect of spoilers/dive brakes on speed and descent rate?

- A. Spoilers increase drag and lift, enabling steeper descents.
- B. Spoilers increase drag and reduce lift, enabling steeper descents and lower speeds.**
- C. Spoilers decrease drag and increase lift, improving descent rate.
- D. Spoilers have no effect on descent rate.

Spoilers or dive brakes disrupt the smooth airflow over the wing, increasing drag and reducing lift. That combination changes the flight path: with more drag, the airplane sinks more quickly, so you can achieve a steeper descent without having to accelerate. At the same time, the loss of lift means you're not generating as much upward force, which helps you maintain a controlled, lower airspeed if you manage thrust accordingly. This dual effect—more drag and less lift—lets you descend steeply while keeping the speed in check, which is why the best description is that spoilers increase drag and reduce lift, enabling steeper descents and lower speeds.

5. Glide ratio is defined as what?

- A. Horizontal distance traveled per altitude gained.
- B. Horizontal distance traveled per unit of altitude lost.**
- C. Altitude gained per unit of horizontal distance traveled.
- D. Energy required to reach a landing site.

Glide ratio measures how far you can travel horizontally for each unit of altitude you lose in unpowered flight. It's the horizontal distance divided by the vertical distance fallen. So the correct description is horizontal distance traveled per unit of altitude lost. For example, a glide ratio of 10:1 means you can go 10 units forward for every 1 unit of altitude you lose, reflecting the aircraft's glide efficiency and its lift-to-drag characteristics. The other ideas don't fit: horizontal distance per altitude gained would imply climbing, which isn't how a glide works; altitude gained per horizontal distance is the inverse; and energy required to reach a landing site isn't a distance-to-distance ratio.

6. Which aircraft is associated with the nickname Super King Air?

- A. B350**
- B. C441
- C. DH8
- D. SF34

Nicknames like "Super King Air" point to a specific variant within a well-known family of aircraft. The Beechcraft King Air 350 is the version that carries the nickname, as it's the enhanced, higher-capacity evolution of the King Air line with more power and cabin space. That combination of improvements sets it apart from earlier King Airs and from models in other families. The other aircraft listed belong to different families entirely—the Dash 8, Saab 340, and other Beechcraft designs—so they aren't associated with the nickname.

7. The Piper Cherokee corresponds to which model number?

- A. PA24
- B. C210
- C. PA32**
- D. BE36

Piper's Cherokee name shows up in multiple model designations, with Cherokee used for the PA-28 family and the larger, six-seat PA-32 variant (often called Cherokee Six). In the options given, the only model that carries the Cherokee designation within Piper's lineup is PA-32, known as the Cherokee Six. The other options are not Piper Cherokees: PA-24 is Piper's Comanche line, C210 is a Cessna, and BE36 is a Beechcraft Bonanza.

8. Which statement about static stability vs dynamic stability in pitch is correct?

- A. Static stability is the initial tendency to return to trim after a disturbance; dynamic stability describes how the motion decays over time.**
- B. Static stability describes how motion decays over time; dynamic stability is the initial response.
- C. Static stability refers to yaw behavior; dynamic stability refers to roll behavior.
- D. Static stability is a function of altitude; dynamic stability is a function of airspeed.

In pitch, static stability is about the immediate tendency of the aircraft after a disturbance. If you nudge the nose up or down from the trimmed attitude, a statically stable airplane has a restoring moment that acts right away to push the nose back toward trim. Dynamic stability deals with what happens after that initial response: how the pitch motion evolves over time. It describes whether the oscillations die out (are damped), persist, or grow. So the correct idea is that static stability concerns the initial tendency to return to trim, while dynamic stability concerns the subsequent motion and how it decays or evolves with time. The other notions mix up these concepts or misplace them on different axes or flight parameters (such as yaw/roll or altitude/airspeed), which isn't what defines static versus dynamic stability in pitch.

9. Dehavilland-8 maps to which code?

- A. C130
- B. DH8D
- C. DH8**
- D. SF34

Aircraft type codes identify a specific airplane model in a compact form. For the De Havilland Dash 8, the common designator is DH8, where DH comes from De Havilland and 8 indicates the Dash 8 family. This simple, general code is what you'll see in reference lists and exams for the De Havilland-8. Other codes reference different aircraft—C130 points to the Lockheed C-130 Hercules, SF34 to the Saab 340, and DH8D would indicate a specific Dash 8 variant rather than the base type. So DH8 is the appropriate mapping.

10. The Cessna Skylane corresponds to which model number?

A. C182

B. C172

C. PA24

D. BE36

Skylane is the nickname used for the Cessna 182. This high wing, single engine airplane is designated in model form as C182, making it the specific match for the Skylane. The Cessna 172 is known as the Skyhawk, not Skylane, so it isn't the right match. The Piper PA 24 is the Comanche, and the Beechcraft BE36 is the Bonanza—different manufacturers and names. So the model number that corresponds to the Skylane is C182.

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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://aircraftcharacteristics.examzify.com>

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

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