

COMMERCIAL PILOT MULTI ENGINE 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. If Pitot tube freezes and drain hole remains clear, what happens to readings?**
 - A. Airspeed reading decreases while the altimeter and vertical speed read normally.
 - B. Airspeed reading increases and the altimeter reads incorrectly.
 - C. Only the altimeter is affected.
 - D. All air data instruments fail.

- 2. Which action would likely constitute 'holding out'?**
 - A. Advertising flight services to the public.
 - B. Offering a seat to a specific friend.
 - C. Refusing service to a person due to location.
 - D. Providing a free demo flight to one customer.

- 3. Which statement best describes the basic characteristics of a micro-burst?**
 - A. Diameter greater than 5 miles in the cloud with downdrafts of 1000 fpm and surface winds of 10 knots
 - B. Less than 1 mile in diameter in the cloud and about 2.5 miles near the ground; downdrafts up to 6000 fpm; surface winds 45-90 knots; wind shear; duration 15 minutes to 1 hour
 - C. Uniform wind with no downdraft and short duration
 - D. Only occurs with hail and lightning in severe storms

- 4. What does AWOS stand for and what does it do?**
 - A. Automated Weather Observing System, consisting of sensors, a processor, a voice subsystem, and a transmitter to broadcast local, minute by minute weather data directly to the pilot.
 - B. Automatic Weather Observation Service, a manual observation network.
 - C. Aircraft Weather Observation System, an in-cockpit sensor suite.
 - D. Automated Weather Operational Schedule, a flight planning tool for weather.

- 5. If speed doubles from 100 kn to 200 kn, parasite drag becomes how many times greater?**
 - A. Two times
 - B. Four times
 - C. Eight times
 - D. Sixteen times

6. Which of the following describes the approximate temperature lapse rate up to 36,000 feet?
- A. 3.5°F per 1,000 feet
 - B. 5.0°F per 1,000 feet
 - C. 2°C per 1,000 feet
 - D. 4°C per 1,000 feet
7. The speed increase from 100 kn to 200 kn represents what percent increase?
- A. 50%
 - B. 100%
 - C. 150%
 - D. 200%
8. Maneuvering speed (VA) typically falls within which range?
- A. 112-135 knots
 - B. 90-110 knots
 - C. 100-120 knots
 - D. 140-160 knots
9. What are the required maintenance inspections for aircraft?
- A. An annual inspection only
 - B. A 100-hour inspection only
 - C. An annual inspection and a 100-hour inspection
 - D. No required inspections
10. Which system is described as the primary source of surface weather observations in the United States that supports METAR generation?
- A. ASOS/AWSS.
 - B. HIWAS.
 - C. EFAS.
 - D. ATIS.

Answers

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

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Explanations

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1. If Pitot tube freezes and drain hole remains clear, what happens to readings?

- A. Airspeed reading decreases while the altimeter and vertical speed read normally.**
- B. Airspeed reading increases and the altimeter reads incorrectly.
- C. Only the altimeter is affected.
- D. All air data instruments fail.

The airspeed indicator uses the difference between impact (dynamic) pressure from the Pitot tube and ambient static pressure. If the Pitot tube freezes, that dynamic pressure signal is cut off. Since the drain hole is still clear, moisture can drain but it doesn't restore the pressure signal to the airspeed instrument. The static pressure line feeding the altimeter and vertical speed indicator is unchanged, so those instruments continue to read normally. So you would see the airspeed reading drop (often toward zero) while the altimeter and vertical speed indicator remain unaffected.

2. Which action would likely constitute 'holding out'?

- A. Advertising flight services to the public.**
- B. Offering a seat to a specific friend.
- C. Refusing service to a person due to location.
- D. Providing a free demo flight to one customer.

Holding out means making your aviation services available to the general public by advertising or soliciting business, signaling that you're willing to transport or provide flight services to any eligible person who comes to you. Advertising flight services to the public is exactly that: it publicly invites anyone to use your services, which can create regulatory obligations to operate as a certificated carrier or approved operator. In contrast, offering a seat to a specific friend is a private arrangement, not a public invitation. Refusing service based on location is discriminatory behavior but not a public solicitation to the public. Providing a free demo flight to one customer is a targeted promotion for that individual, not a general invitation to the public.

3. Which statement best describes the basic characteristics of a micro-burst?

- A. Diameter greater than 5 miles in the cloud with downdrafts of 1000 fpm and surface winds of 10 knots
- B. Less than 1 mile in diameter in the cloud and about 2.5 miles near the ground; downdrafts up to 6000 fpm; surface winds 45-90 knots; wind shear; duration 15 minutes to 1 hour**
- C. Uniform wind with no downdraft and short duration
- D. Only occurs with hail and lightning in severe storms

A micro-burst is a small-scale, intense downdraft that creates a sudden, powerful surface outflow and significant wind shear. It is confined to a very small area, typically with a footprint less than about 2.5 miles across, and the downdraft can accelerate air downward at rates up to around 6,000 feet per minute. When this air reaches the surface, it can produce gusts in the 45–90 knot range, creating dangerous changes in wind speed and direction over a short period. The event is brief, usually lasting only a few minutes, though the gust front may spread outward for a short while after the downdraft ends. The statement best capturing these characteristics includes a small diameter, a strong downdraft, high surface winds, wind shear, and a short duration, which is what defines a micro-burst. The other options misrepresent the size, the presence of a downdraft, or the conditions under which micro-bursts occur.

4. What does AWOS stand for and what does it do?

- A. Automated Weather Observing System, consisting of sensors, a processor, a voice subsystem, and a transmitter to broadcast local, minute by minute weather data directly to the pilot.**
- B. Automatic Weather Observation Service, a manual observation network.
- C. Aircraft Weather Observation System, an in-cockpit sensor suite.
- D. Automated Weather Operational Schedule, a flight planning tool for weather.

AWOS stands for Automated Weather Observing System. It is an automated setup at airports that uses sensors, a processing unit, a voice subsystem, and a transmitter to continuously broadcast local weather data directly to pilots. It delivers near real-time conditions such as wind speed and direction, visibility, sky cover and ceiling, temperature, dew point, and altimeter setting, so pilots can make informed decisions for takeoff, landing, and flight planning. This is automated and does not require a human observer, unlike manual networks or in-cockpit sensor suites, and it isn't a flight planning tool.

5. If speed doubles from 100 kn to 200 kn, parasite drag becomes how many times greater?

- A. Two times
- B. Four times**
- C. Eight times
- D. Sixteen times

Parasite drag increases with the square of speed because it's tied to dynamic pressure, which grows as V^2 . If speed doubles from 100 knots to 200 knots, the dynamic pressure increases by a factor of $(200/100)^2 = 4$. With the drag coefficient and reference area staying essentially the same, parasite drag becomes four times greater. So the correct result is four times.

6. Which of the following describes the approximate temperature lapse rate up to 36,000 feet?

- A. 3.5°F per 1,000 feet**
- B. 5.0°F per 1,000 feet
- C. 2°C per 1,000 feet
- D. 4°C per 1,000 feet

The temperature in the standard atmosphere decreases with altitude at about 2°C for every 1,000 feet you climb, up to the tropopause around 36,000 feet. When you convert that rate to Fahrenheit, 2°C per 1,000 ft is roughly 3.6°F per 1,000 ft, so using about 3.5°F per 1,000 ft is a common practical approximation. This is the rate pilots use for planning and performance calculations up to 36,000 ft. Above that height the rate changes in the higher layers, so the same lapse rate doesn't apply. The other options imply hotter cooling (or use the Celsius unit without converting), which isn't consistent with the standard atmosphere up to 36,000 ft.

7. The speed increase from 100 kn to 200 kn represents what percent increase?

- A. 50%
- B. 100%**
- C. 150%
- D. 200%

When you measure a percent change, you compare how much something has increased to what it was originally. The formula is percent increase = (new value - original value) / original value × 100%. Here, the speed goes from 100 knots to 200 knots. The increase is $200 - 100 = 100$ knots. Divide that by the original 100 knots: $100 / 100 = 1$. Multiply by 100% to convert to a percentage: $1 \times 100\% = 100\%$. So the speed increase is 100%. (Note: the new speed is 200% of the original, but the increase itself is 100%.)

8. Maneuvering speed (VA) typically falls within which range?

- A. 112-135 knots**
- B. 90-110 knots
- C. 100-120 knots
- D. 140-160 knots

Maneuvering speed is the speed at which full, abrupt control inputs will produce loads equal to the airplane's limit load factor without causing structural damage. It depends on weight and configuration: as you load the airplane more heavily, VA rises; at lighter weights it falls. The range 112–135 knots fits a common mid-range VA for many light general aviation airplanes when they're near typical operating weights, meaning you can apply full control inputs safely up to that speed. Values much lower would be unusual for most small aircraft at practical weights, while values much higher would correspond to heavier or differently configured airplanes. Remember, VA is not a fixed speed; it changes with weight and configuration and is published in the POH.

9. What are the required maintenance inspections for aircraft?

- A. An annual inspection only
- B. A 100-hour inspection only
- C. An annual inspection and a 100-hour inspection**
- D. No required inspections

Two inspections govern airworthiness here: the annual inspection and the 100-hour inspection. The annual inspection is required for every civil aircraft and must be completed every 12 calendar months. The 100-hour inspection applies to aircraft used for hire or flight instruction (or rental to a student) and is due every 100 hours of time in service. When an aircraft is used in commercial operations or for instruction, both inspections are required, so the correct understanding is that an annual inspection and a 100-hour inspection are required. If an aircraft is used only for private, non-commercial purposes, the 100-hour inspection isn't required, but the annual A inspection still is.

10. Which system is described as the primary source of surface weather observations in the United States that supports METAR generation?

A. ASOS/AWSS.

B. HIWAS.

C. EFAS.

D. ATIS.

The main concept is that METARs in the United States are generated from automated surface observation systems. These stations, ASOS combined with AWSS at many airports, continuously measure key surface weather elements—wind and gusts, visibility, present weather, cloud cover and height, temperature, dew point, and altimeter setting—and provide time-stamped observations. This automated, standardized, real-time data supply the consistent input needed to produce METAR reports nationwide. Other options—such as HIWAS, which broadcasts enroute weather advisories; EFAS, an enroute advisory service; and ATIS, which is an airport information broadcast—do not serve as the primary data source for METAR generation. They either provide weather information in a broadcast form or deliver advisory content, not the official surface observations used to create METARs.

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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://commpilotmultiengine.examzify.com>

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

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