

# OFFICER APTITUDE RATING (OAR) 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.

# 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 cloud type is typically associated with thunderstorms?**
  - A. Cumulus
  - B. Cumulonimbus
  - C. Stratocumulus
  - D. Cirrus
- 2. Two trains running on the same track travel at the rates of 40 and 45 mph, respectively. If the slower train starts an hour earlier, how long will it take the faster train to catch the slower train?**
  - A. 5 hours
  - B. 6 hours
  - C. 7 hours
  - D. 8 hours
- 3. A tank with a volume of 500 gallons can be filled by one pipe in 25 minutes and drained by another pipe in 50 minutes. How long will it take to fill the tank if both pipes are open?**
  - A. 50 minutes
  - B. 52 minutes
  - C. 55 minutes
  - D. 56 minutes
- 4. How many degrees do all angles in a triangle add up to?**
  - A. 360 degrees
  - B. 180 degrees
  - C. 90 degrees
  - D. 270 degrees
- 5. What altitude range defines altostratus clouds?**
  - A. Below 6,000 feet
  - B. 6,000 to 20,000 feet
  - C. 20,000 to 30,000 feet
  - D. Above 18,000 feet

- 6. How is 7% expressed as a fraction?**
- A.  $7/100$
  - B.  $1/14$
  - C.  $7/10$
  - D.  $1/100$
- 7. What process occurs in liquids and gases through circulating currents caused by density differences?**
- A. Conduction
  - B. Convection
  - C. Radiation
  - D. Insulation
- 8. What is a micrometer mainly used for?**
- A. Measuring large distances
  - B. Calculating electric resistance
  - C. Precise measurements of small dimensions
  - D. Determining temperatures
- 9. What is the primary function of a sextant in navigation?**
- A. To measure time
  - B. To determine speed
  - C. To measure angles for celestial navigation
  - D. To calculate distance
- 10. What is the principal function of a fathometer?**
- A. To measure temperature of the ocean
  - B. To determine water salinity
  - C. To make deep sea soundings
  - D. To track marine life

## **Answers**

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

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## **Explanations**

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**1. Which cloud type is typically associated with thunderstorms?**

- A. Cumulus
- B. Cumulonimbus**
- C. Stratocumulus
- D. Cirrus

*The cloud type typically associated with thunderstorms is the cumulonimbus cloud. These clouds are characterized by their towering height and an anvil-shaped top, which can extend high into the atmosphere. Cumulonimbus clouds form through strong rising air currents that lead to the development of significant vertical growth. This process creates not only the potential for heavy rainfall but also the conditions necessary for thunder and lightning. Cumulonimbus clouds can produce severe weather, including thunderstorms, hail, and tornadoes, due to their ability to hold large amounts of moisture and energy. Their structure includes various layers, and they often reach heights where temperatures are significantly cooler, leading to condensation and precipitation. Other cloud types, such as cumulus, are generally associated with fair weather; stratocumulus clouds tend to indicate overcast skies without the dynamic conditions for thunderstorms, while cirrus clouds are thin and wispy and typically found at high altitudes, indicating fair weather rather than storm conditions. Hence, cumulonimbus is the cloud type most closely linked to the formation of thunderstorms.*

**2. Two trains running on the same track travel at the rates of 40 and 45 mph, respectively. If the slower train starts an hour earlier, how long will it take the faster train to catch the slower train?**

- A. 5 hours
- B. 6 hours
- C. 7 hours
- D. 8 hours**

*To determine how long it will take the faster train to catch the slower train, we start by calculating the head start that the slower train has due to starting an hour earlier. In that one hour, the slower train, traveling at 40 mph, would cover a distance of 40 miles. Now, we need to find the time it takes for the faster train, which travels at 45 mph, to close the 40-mile gap between them. The relative speed between the two trains is the difference in their speeds, which is 45 mph (faster train) - 40 mph (slower train) = 5 mph. To find out how long it will take for the faster train to catch up, we divide the distance it needs to cover (40 miles) by the relative speed (5 mph). So the calculation is as follows:  $\text{Time} = \text{Distance} / \text{Speed}$   $\text{Time} = 40 \text{ miles} / 5 \text{ mph} = 8 \text{ hours}$ . Thus, it will take the faster train 8 hours to catch the slower train.*

3. A tank with a volume of 500 gallons can be filled by one pipe in 25 minutes and drained by another pipe in 50 minutes. How long will it take to fill the tank if both pipes are open?

A. 50 minutes

B. 52 minutes

C. 55 minutes

D. 56 minutes

To determine how long it will take to fill the tank when both pipes are open, we should first ascertain the filling and draining rates of the respective pipes. The filling pipe can fill the tank in 25 minutes. This means it can fill  $\frac{1}{25}$  of the tank's volume per minute. Conversely, the draining pipe empties the tank in 50 minutes, equating to a rate of  $\frac{1}{50}$  of the tank's volume per minute. When both pipes are open simultaneously, the net rate of filling the tank is derived by subtracting the draining rate from the filling rate. Hence, we have: Filling rate:  $\frac{1}{25}$  tanks per minute Draining rate:  $\frac{1}{50}$  tanks per minute To combine these rates effectively, we find a common denominator. For 25 and 50, the lowest common multiple is 50: - The filling rate becomes  $\frac{2}{50}$  tanks per minute (since  $\frac{1}{25} = \frac{2}{50}$ ). - The draining rate remains  $\frac{1}{50}$  tanks per minute. Now, we can subtract the draining rate from the filling rate: Net Rate =  $(\frac{2}{50}) - (\frac{1}{50}) = \frac{1}{50}$  tanks per minute. Therefore,

4. How many degrees do all angles in a triangle add up to?

A. 360 degrees

B. 180 degrees

C. 90 degrees

D. 270 degrees

In a triangle, the sum of all interior angles is universally recognized as 180 degrees. This can be understood through various geometric principles, such as the concept of surveying or the use of parallel lines. When a triangle is drawn, if you extend one of its sides, you can observe that the angles formed with the adjacent sides include an interior angle of the triangle and two exterior angles. The relationship among these angles demonstrates that the interior angles of a triangle always equate to 180 degrees. This fundamental property applies to all triangles, regardless of their type—whether they are scalene, isosceles, or equilateral. In contrast, the other choices do not reflect the inherent properties of triangles; for example, the sum of angles in a circle equals 360 degrees, which is indicative of a full rotation rather than a polygon's angular sum. Similarly, 90 degrees is the sum of angles in a right angle configuration, and 270 degrees is not relevant in typical triangle geometry. Thus, recognizing that all angles in a triangle must total 180 degrees is essential for solving geometry problems effectively.

5. What altitude range defines altostratus clouds?

A. Below 6,000 feet

B. 6,000 to 20,000 feet

C. 20,000 to 30,000 feet

D. Above 18,000 feet

Altostratus clouds are classified as mid-level clouds, and they typically form in the altitude range of 6,000 to 20,000 feet. This classification helps meteorologists and aviators to understand cloud formation and predict weather conditions. Altostratus clouds often appear as a gray or blue-gray layer that covers the sky, and they can indicate that precipitation might occur later, as they often precede storms. The correct range is significant because it distinguishes altostratus from other types of clouds. For instance, lower clouds like stratus would be found below 6,000 feet, while higher clouds such as cirrus typically exist above 20,000 feet. Understanding the specific altitude range is crucial for weather prediction, navigation, and in aviation safety contexts.

## 6. How is 7% expressed as a fraction?

**A. 7/100**

B. 1/14

C. 7/10

D. 1/100

To express 7% as a fraction, you need to understand how percentages work. The percent symbol (%) signifies "per hundred." Therefore, 7% means 7 out of 100. When converting a percentage to a fraction, you can write it as:  $\frac{7}{100}$ . This expression directly indicates that 7 is the number of parts out of 100 total parts. It's the simplest form for this percentage, as both the numerator and denominator have no common factors other than 1, which means it cannot be simplified further. Understanding this concept is crucial, especially in scenarios where you need to perform mathematical operations with percentages or convert them into a form that is useful for calculations and comparisons.

## 7. What process occurs in liquids and gases through circulating currents caused by density differences?

A. Conduction

**B. Convection**

C. Radiation

D. Insulation

The process that occurs in liquids and gases through circulating currents caused by density differences is convection. This phenomenon takes place when warmer, less dense areas of a fluid rise while cooler, denser areas sink, creating a continuous circulation pattern. This movement allows heat to be transferred efficiently through the fluid. Convection is particularly relevant in various everyday scenarios, such as boiling water, atmospheric circulation, and ocean currents. In these situations, the heat causes a change in density, initiating the flow that characterizes convection. The transfer of heat by this method is distinct from conduction, where heat moves through direct contact between materials, and radiation, where heat is transferred through electromagnetic waves without the need for a medium. Insulation refers to preventing heat transfer, which is not related to the movement caused by density differences in fluids.

## 8. What is a micrometer mainly used for?

A. Measuring large distances

B. Calculating electric resistance

**C. Precise measurements of small dimensions**

D. Determining temperatures

A micrometer is primarily utilized for the precise measurement of small dimensions, such as the thickness of a sheet of paper or the diameter of small objects like wires and bolts. This tool is essential in fields where high accuracy is crucial, such as engineering, manufacturing, and machining. The design of a micrometer includes a calibrated screw that allows for minute adjustments, enabling it to measure with great precision down to thousandths of an inch (or hundredths of a millimeter). In contrast, other options do not align with the primary function of a micrometer. Measuring large distances is typically done with instruments like tape measures or surveying equipment. Calculating electric resistance would involve devices like ohmmeters or multimeters, and determining temperatures relies on thermometers. Therefore, the correct option highlights the specialized use of a micrometer in achieving precise measurements of very small dimensions.

## 9. What is the primary function of a sextant in navigation?

- A. To measure time
- B. To determine speed
- C. To measure angles for celestial navigation**
- D. To calculate distance

*The primary function of a sextant in navigation is to measure angles for celestial navigation. It is an instrument that allows navigators to determine their position by measuring the angle between a celestial body (like the sun or a star) and the horizon. This angular measurement is crucial for calculating latitude and longitude, which are essential for determining one's location at sea. By using a sextant, navigators can accurately pinpoint their position over vast distances of open water, which is essential for safe and effective maritime travel. The other options, while related to navigation, do not accurately describe the specific role of a sextant: measuring time, determining speed, and calculating distance rely on different instruments and methods.*

## 10. What is the principal function of a fathometer?

- A. To measure temperature of the ocean
- B. To determine water salinity
- C. To make deep sea soundings**
- D. To track marine life

*The principal function of a fathometer is to make deep sea soundings. A fathometer, also known as a depth sounder, uses sonar technology to measure the depth of water beneath a vessel. It sends sound waves that travel through the water, reflect off the seabed, and return to the device. By calculating the time it takes for the sound waves to return, the fathometer can accurately determine the depth of the water. This measurement is essential for nautical navigation, understanding marine topography, and conducting underwater surveys. The other choices, while relevant to oceanography, do not pertain to the specific function of a fathometer. For instance, measuring water temperature or salinity involves different instruments, and tracking marine life is typically accomplished using sonar or other specialized equipment designed to monitor fish and other aquatic organisms. Thus, the correct identification of the fathometer's function emphasizes its unique role in depth measurement.*

## 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](mailto:hello@examzify.com).

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

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

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