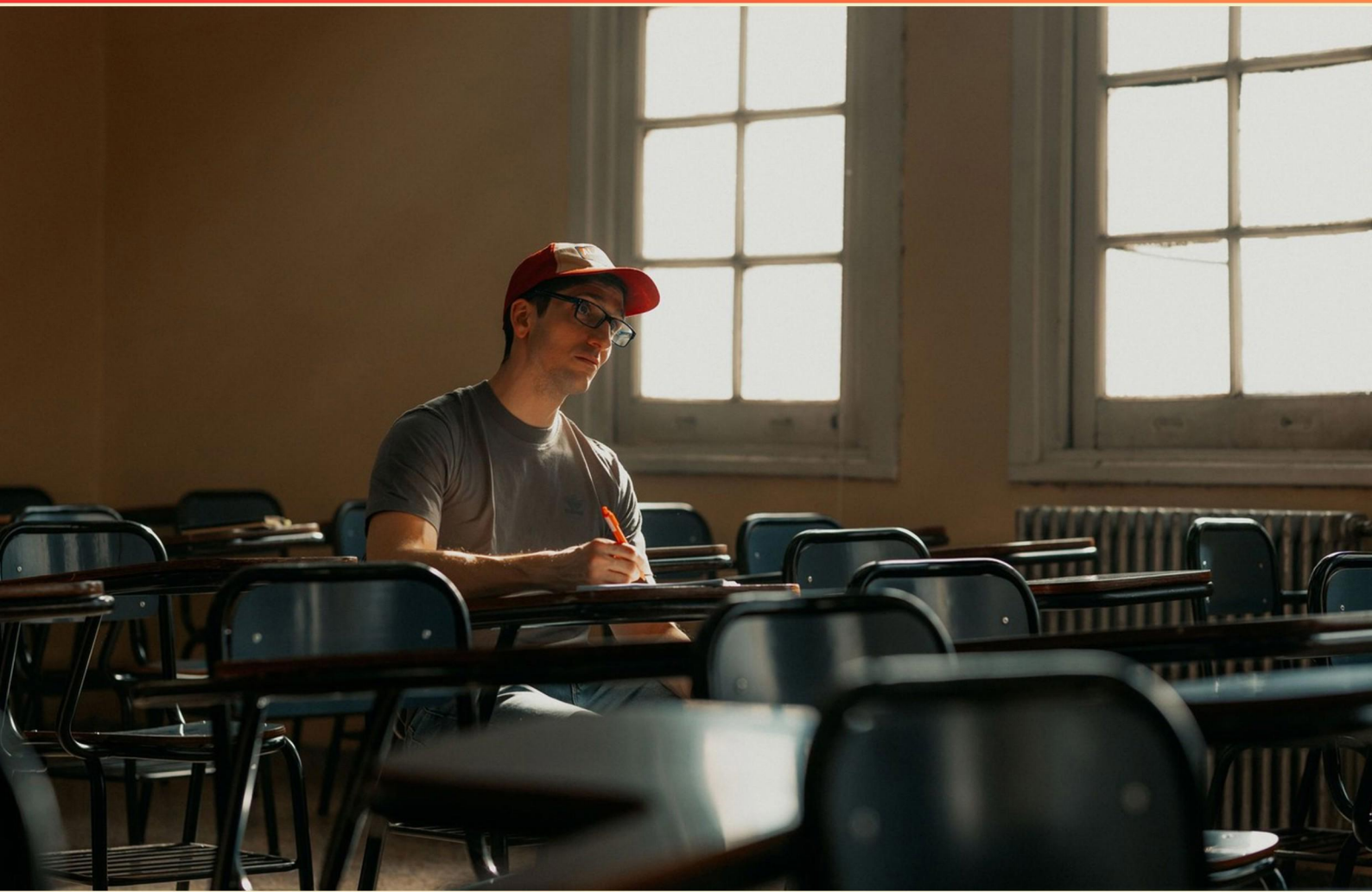


PSYCHOLOGY STATISTICS PRACTICE TEST (SAMPLE)

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. What is the effect size in ANOVA (eta-squared)?**
- A. Eta-squared represents the proportion of total variance explained by an effect.
 - B. It reflects the p-value of the F-test.
 - C. It is the degrees of freedom for between-group variance.
 - D. It is the mean squared error.
- 2. A biologist records counts of different fish species caught in a lake. If the results are organized in a frequency distribution graph, what kind of graph should be used?**
- A. A bar graph
 - B. A histogram
 - C. A polygon
 - D. Either a histogram or polygon
- 3. What is the midpoint of the class interval 15-19?**
- A. 15
 - B. 16
 - C. 17
 - D. 18
- 4. Which measure of central tendency is most appropriate for skewed distributions with outliers?**
- A. Median
 - B. Mean
 - C. Mode
 - D. Geometric Mean
- 5. What is the value of $\sum(X - 1)^2$ for the scores 1, 2, 1, 4?**
- A. 10
 - B. 16
 - C. 36
 - D. 49

6. In a histogram, what does the x-axis typically represent?
- A. Score intervals
 - B. Frequencies
 - C. Relative frequencies
 - D. Cumulative counts
7. What is the cumulative frequency after the first two classes?
- A. 1
 - B. 5
 - C. 6
 - D. 7
8. In that distribution, which class interval contains the median value?
- A. 5-9
 - B. 10-14
 - C. 15-19
 - D. 20-24
9. Which graph is appropriate for scores measured on a nominal scale?
- A. Only a histogram
 - B. Only a polygon
 - C. Either a histogram or polygon
 - D. Only a bar graph
10. A skewed distribution typically has ____ tail(s) and a normal distribution has ____ tail(s).
- A. 1; 1
 - B. 1; 2
 - C. 2; 1
 - D. 2; 2

Answers

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

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Explanations

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1. What is the effect size in ANOVA (eta-squared)?

- A. Eta-squared represents the proportion of total variance explained by an effect.
- B. It reflects the p-value of the F-test.
- C. It is the degrees of freedom for between-group variance.**
- D. It is the mean squared error.

Eta-squared expresses how much of the total variability in the dependent variable is explained by the effect in an ANOVA. It's calculated as the sum of squares for the effect divided by the total sum of squares: $\eta^2 = SS_{\text{effect}} / SS_{\text{total}}$. The value ranges from 0 to 1, with larger values indicating that the factor accounts for a bigger share of the total variance. This is a measure of effect size, not a significance test, so it complements the F-test and its p-value by showing how substantial the effect is in practical terms. For example, if SS_{effect} is 20 and SS_{total} is 100, eta-squared would be 0.20, meaning 20% of the total variance is explained by the factor. Note that there's also a related statistic called partial eta-squared, which uses a slightly different denominator ($SS_{\text{effect}} + SS_{\text{error}}$) and can produce larger values in the same data depending on the design.

2. A biologist records counts of different fish species caught in a lake. If the results are organized in a frequency distribution graph, what kind of graph should be used?

- A. A bar graph**
- B. A histogram
- C. A polygon
- D. Either a histogram or polygon

When you're displaying frequency data for distinct categories, use a bar graph. Each category (here, a fish species) gets its own bar, and the height shows how many were caught, making it easy to compare how common each species is. A histogram is for continuous data that are grouped into intervals, so it would imply a numerical spectrum rather than separate species. A polygon (frequency polygon) connects points from a histogram, which again suits continuous data, not categorical counts. So the bar graph is the best choice for showing the distribution of counts across different species.

3. What is the midpoint of the class interval 15-19?

- A. 15
- B. 16
- C. 17**
- D. 18

The midpoint of a class interval is the value exactly halfway between its lower and upper bounds. For 15-19, add the endpoints: $15 + 19 = 34$, then divide by 2 to get 17. This midpoint, often called the class mark, represents the center of that interval and is used when estimating means or plotting grouped data. The endpoints themselves (15 and 19) are not the center, and inside values like 16 or 18 are not the middle of the interval. So the midpoint is 17.

4. Which measure of central tendency is most appropriate for skewed distributions with outliers?

A. Median

B. Mean

C. Mode

D. Geometric Mean

When a distribution is skewed and contains outliers, the median is the most reliable way to describe a typical value. The median is the middle value when data are ordered (or the average of the two middle values when the sample size is even), so it doesn't get dragged toward extreme scores like the arithmetic mean does. For example, in a skewed income distribution where a few very high earners pull the average up, the median stays near the center of the main group of data and better reflects a typical person's earnings. The mean, by contrast, uses every value and is sensitive to outliers, which can be misleading in skewed data. The mode can be uninformative for continuous data and doesn't necessarily represent a central location. The geometric mean is useful for products or growth rates but is not robust to outliers and isn't appropriate for all data types. So the median best captures the central tendency when skew and outliers are present.

5. What is the value of $\sum(X - 1)^2$ for the scores 1, 2, 1, 4?

A. 10

B. 16

C. 36

D. 49

You're summing squared deviations from 1. For each score, subtract 1 and square, then add them all up. Compute: 1 gives $(1-1)^2 = 0$; 2 gives $(2-1)^2 = 1$; the next 1 gives $(1-1)^2 = 0$; 4 gives $(4-1)^2 = 9$. Add them: $0 + 1 + 0 + 9 = 10$. So the value is 10.

6. In a histogram, what does the x-axis typically represent?

A. Score intervals

B. Frequencies

C. Relative frequencies

D. Cumulative counts

In a histogram, the x-axis shows the numeric values of the variable divided into intervals (the bins) along the measurement scale, like 0–10, 10–20, etc. This tells you where data values fall across the range. The height of each bar represents how many observations fall into that interval (the frequency). Sometimes the same plot can display relative frequency or density on the y-axis, but the x-axis always represents the value ranges, not the counts themselves. A different plot, like a cumulative frequency curve, would be used to show cumulative counts.

7. What is the cumulative frequency after the first two classes?

- A. 1
- B. 5**
- C. 6
- D. 7

Cumulative frequency is a running total of how many observations fall up to a certain point in the distribution. To get the value after the first two classes, you add the frequencies of those two classes. In this distribution, that sum comes out to five, so the cumulative frequency after the first two classes is five. For example, if the first class had 2 observations and the second had 3, their total would be five, which illustrates the same idea. The other numbers would require different sums of the first two class frequencies, which doesn't match this data.

8. In that distribution, which class interval contains the median value?

- A. 5-9
- B. 10-14
- C. 15-19**
- D. 20-24

The concept being tested is locating the median in a grouped frequency distribution. To do this, you find the 50th percentile by taking half of the total number of observations and then summing the class frequencies from the smallest interval upward until you reach or pass that halfway point. The class interval where that halfway point falls is the median class—the interval that contains the median value. In this distribution, the halfway point falls inside the 15-19 interval, so the median value lies within that class. If you wanted a precise median, you could use interpolation within that interval, but the key point is that the 50th percentile is reached somewhere in 15-19.

9. Which graph is appropriate for scores measured on a nominal scale?

- A. Only a histogram
- B. Only a polygon
- C. Either a histogram or polygon
- D. Only a bar graph**

Nominal data are categories with no natural order, so the distribution is best shown with a bar graph. In a bar graph, each category sits on the horizontal axis and the height of its bar reflects frequency or percentage, making it easy to compare how many observations fall into each category. Bars are separated to emphasize that the categories are distinct and not connected by equal intervals. Histograms are designed for continuous data and group scores into numeric bins with equal spacing, which isn't meaningful for nominal categories. Polygons connect data points to show a continuous trend, which also isn't appropriate when the x-axis represents separate, unordered categories. For this reason, a bar graph is the appropriate choice for nominal-scale scores.

10. A skewed distribution typically has ____ tail(s) and a normal distribution has ____ tail(s).

A. 1; 1

B. 1; 2

C. 2; 1

D. 2; 2

Tails refer to the extreme ends of a distribution. A skewed distribution is not symmetric, so it has one long tail extending in the direction of the skew, while the other side is comparatively short. A normal distribution is symmetric and bell-shaped, with tails stretching on both sides of the center. So the skewed case has one tail, and the normal case has two tails.

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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://psychologystats.examzify.com>

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

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