

In this test you will see actual statements of problems from Geometry worksheets. These problem statements are enclosed in boxes. You are *not* being asked to solve the stated problems. Instead, you are being asked *about the meanings* of the problems statements.

Here is the form of the questions in this test.

1. A problems statement, taken from an actual worksheet, is enclosed in a box.
2. Following the box are one or more multiple-choice questions about the problem statement in that box.

Your job is to answer the multiple-choice questions; they ask you about the *meanings* of the problem statements.

Answer the multiple-choice questions; **you do not need to solve the problems themselves.**

To answer each multiple-choice question, write the letter of the correct choice (A, B, C, or D) **on the line to the left of the question number.**

Multiple-choice questions 1, 2 and 3 refer to this problem statement:

Name the segment whose length is the distance between the point and line.

15. from F to \overleftrightarrow{BE}

16. from D to \overleftrightarrow{FA}

_____ 1. What can a correct answer to each of questions 15 and 16 contain?

- A. A point and a line.
- B. A segment.
- C. The length of a segment.
- D. A line.

_____ 2. What kind of thing is the distance mentioned in the problem statement?

- A. The length of a segment.
- B. The measure of an angle.
- C. The length of a line.
- D. None of the above.

_____ 3. Identify the point and the line mentioned in the problem statement.

- A. They are different for problem 15 and problem 16.
- B. Your job is to find them in the figure.
- C. The point is F and the line is \overleftrightarrow{BE} for both problems.
- D. The point is D and the line is \overleftrightarrow{FA} for both problems.

Multiple-choice question 4 refers to this problem statement:

Find the slopes of the lines parallel to and perpendicular to the line through the given points.

10. $A(2, 3), B(4, 4)$

11. $C(3, -3), D(6, -5)$

12. $E(-1, -2), F(-1, 3)$

13. $G(0, 0), H(2, 7)$

14. $J(-5, -2), K(3, -2)$

_____ 4. What can a correct answer to each of questions 10-14 contain?

- A. A line.
- B. Two lines.
- C. A number.
- D. Two numbers.

Multiple-choice questions 5 and 6 refer to this statement:

Each of the six faces of a cube has a different number on it. The six numbers are consecutive whole numbers. Three of these numbers are 19, 20, and 23.

_____ 5. Of all the possible arrangements of six consecutive numbers as described in the box, what is the largest number that can appear?

- A. 23.
- B. 24.
- C. 25.
- D. None of the above.

_____ 6. Of all the possible arrangements of six consecutive numbers as described in the box, what is the smallest number that can appear?

- A. 18.
- B. 19.
- C. 20.
- D. None of the above.

Multiple-choice question 7 refers to this problem statement:

Two sides of a triangle are 21 and 24 inches long. Determine whether each measurement can be the length of the third side.

11. 3 inches

12. 40 inches

13. 56 inches

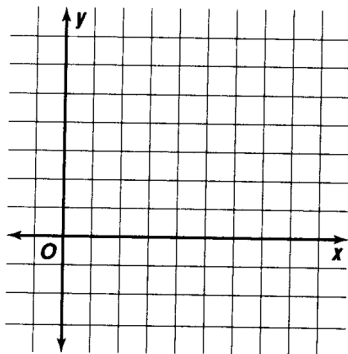
_____ 7. What can a correct answer to each of questions 11, 12, and 13 contain?

- A. A length in inches.
- B. Two lengths in inches.
- C. The word “yes” or the word “no.”
- D. The word “yes” or the word “no,” and a length in inches.

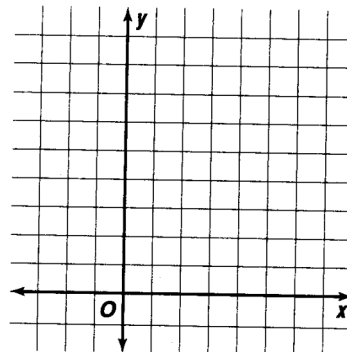
Multiple-choice question 8 refers to this problem statement:

Determine the value of r so that a line through the points with the given coordinates has the given slope. Draw a sketch of each situation.

9. $(5, 3), (r, 6)$; slope = 1



10. $(2, r), (-2, 6)$; slope = $\frac{1}{2}$



_____ 8. What can a correct answer to each of these questions contain?

- A. A number.
- B. A number and a drawing.
- C. A drawing.
- D. Two numbers.

Multiple-choice question 9 refers to this problem statement:

Determine if a valid conclusion can be reached from the two true statements using the Law of Detachment or the Law of Syllogism. If a valid conclusion is possible, state it and the law that is used. If a valid conclusion does not follow, write no conclusion.

1. If Jim is a Texan, then he is an American.
Jim is a Texan.
2. If Spot is a dog, then he has four legs.
Spot has four legs.
3. If Rachel lives in Tampa, then Rachel lives in Florida.
If Rachel lives in Florida, then Rachel lives in the United States.
4. If October 12 is a Monday, then October 13 is a Tuesday.
October 12 is a Monday.
5. If Henry studies his algebra, then he passes the test.
If Henry passes the test, then he will get a good grade.

9. What can a correct answer to each of these five questions contain?

- A. Either the words “no conclusion,” or a conclusion.
- B. Either the words “no conclusion,” or the name of a law.
- C. Either the words “no conclusion,” or both the name of a law and a conclusion.
- D. A conclusion and the Law of Detachment, or a conclusion and the Law of Syllogism.

Multiple-choice question 10 refers to this problem statement:

Determine if the conjecture is true or false based on the given information. Explain your answer and give a counterexample for any false conjecture.

1. Given: noncollinear points A , B , C , and D
Conjecture: A , B , C , and D are coplanar.
2. Given: A , B , C , and D are collinear points.
Conjecture: $AB + BC + CD = AD$
3. Given: $\angle A$ and $\angle B$ are right angles.
Conjecture: $\angle A \cong \angle B$
4. Given: Point C between H and V .
Conjecture: $\angle HCV$ is a straight angle.

10. What can a correct answer to each of these four questions contain?

- A. The word “true” or the word “false.”
- B. The word “true” or the word “false,” and a conjecture.
- C. The word “true” or the word “false,” and an explanation.
- D. The word “true” and an explanation, or the word “false” and an explanation and a counterexample.