

Geometry - Points, Lines, Segments and Angles - Quiz

Common Core G-CO.A.1 · maths-pdf.fr/en/

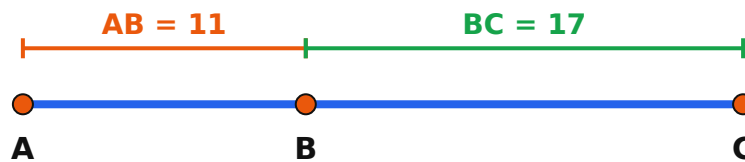
Name: _____ Class: _____ Date: ____/____/____

Test your understanding of segments, midpoints, angles and circles with this 10-question multiple-choice quiz. Each question has one correct answer, and the explanation after it names the typical mistake behind the wrong choices. Take it after the lesson or before the test.

Geometry · Common Core State Standards: **G-CO.A.1**

Questions

Question 1



Point B lies on segment AC between A and C. What is the length of AC?

- A. 6
- B. 187
- C. 14
- D. 28

Question 2

What is the midpoint of the segment from -6 to 14 on a number line?

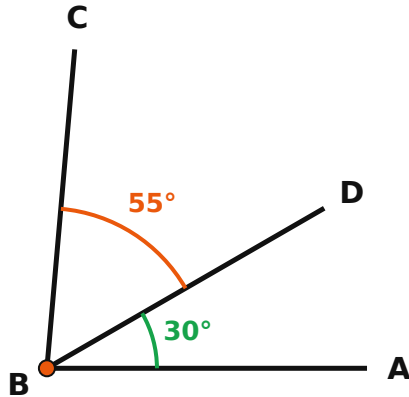
- A. 4
- B. 8
- C. 10
- D. -4

Question 3

Ray BD bisects an angle of 84 degrees. What is each smaller angle?

- A. 84 degrees
- B. 21 degrees
- C. 96 degrees
- D. 42 degrees

Question 4



What is the measure of angle ABC?

- A. 25 degrees
- B. 95 degrees
- C. 85 degrees
- D. 150 degrees

Question 5

What is the supplement of a 112 degree angle?

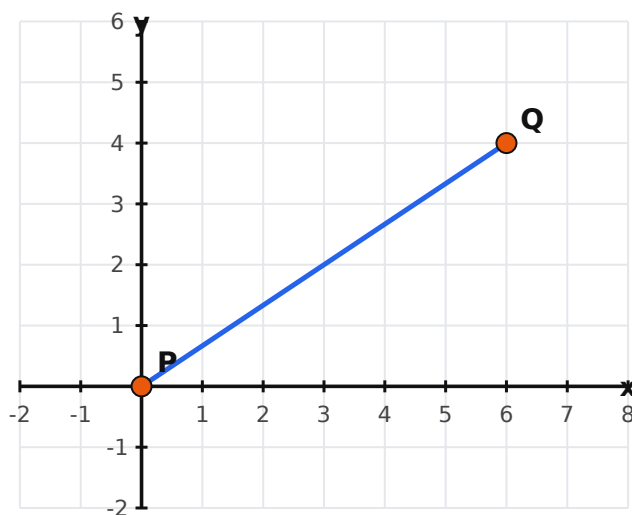
- A. 68 degrees
- B. 78 degrees
- C. 248 degrees
- D. 22 degrees

Question 6

M is the midpoint of segment AB and $AM = 3x + 2$ and $MB = 2x + 9$. What is x?

- A. 5
- B. 7
- C. 11
- D. 23

Question 7



What is the midpoint of segment PQ?

- A. (3, 2)
- B. (6, 4)
- C. (2, 3)
- D. (3, 4)

Question 8

Which statement defines a circle?

- A. All points in a plane that are equally far from two given points
- B. All points in a plane a fixed distance from a given point
- C. A closed figure with no straight sides
- D. A line segment bent around its midpoint

Question 9

The distance between the points (2, 3) and (5, 7) is

- A. 7
- B. 5
- C. 25
- D. 3.5

Question 10

Two lines meet at an angle of $(3x - 6)$ degrees and are perpendicular. What is x ?

- A. 28
- B. 12
- C. 32

Answers

1. **D** - By segment addition, $AC = AB + BC = 11 + 17 = 28$. Subtracting (6) finds the difference of the two parts, not the whole.
2. **A** - The midpoint is $(-6 + 14)/2 = 4$. A common mistake is to add the absolute values or halve the length.
3. **D** - A bisector makes two equal angles, so 84 divided by 2 is 42 degrees.
4. **C** - Angle addition gives $30 + 55 = 85$ degrees. Subtracting gives 25, which is the difference, not the whole angle.
5. **A** - Supplementary angles add to 180, so $180 - 112 = 68$. Using 90 instead of 180 gives the complement idea, which is not asked here.
6. **B** - Set $3x + 2 = 2x + 9$ to get $x = 7$. The value 23 is AM, not x.
7. **A** - Average each coordinate: $(0 + 6)/2 = 3$ and $(0 + 4)/2 = 2$. Swapping the coordinates gives (2, 3).
8. **B** - A circle is defined by a constant distance (the radius) from a fixed center. Equal distance from two points describes a perpendicular bisector.
9. **B** - The distance is the square root of 3 squared plus 4 squared, which is the square root of 25, or 5. Forgetting the square root gives 25.
10. **C** - Perpendicular lines make a 90 degree angle, so $3x - 6 = 90$ and $x = 32$. The value 96 is 3x, not x.

Remember

- Point, line and plane are undefined terms; segments, rays and angles are defined from them.
- Segment addition: if B is between A and C, then $AB + BC = AC$.
- A midpoint at coordinate $(a + b)/2$ splits a segment into two congruent segments.
- Angle addition: $m\angle ABD + m\angle DBC = m\angle ABC$ when ray BD is inside the angle.
- A circle is all points in a plane at one fixed distance (the radius) from the center.