

GRE 2024 Quant Practice Test 16

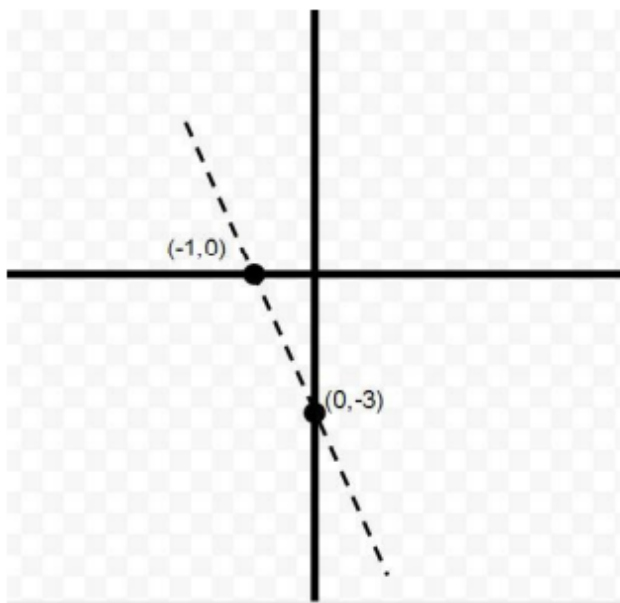
1. If the average of a and b is 70, and the average of b and c is 110, what is the value of $c - a$?

- (1) 90
 - (2) 40
 - (3) 150
 - (4) 80
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2. There is a line defined by two end-points, $(11, -5)$ and (a, b) . The midpoint between these two points is $(-6, -21)$. What is the value of the point (a, b) ?

- (1) $(4, -19)$
 - (2) $(12, -14)$
 - (3) $(-14, -25)$
 - (4) $(-23, -37)$
 - (5) $(5, -26)$
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3. What is the slope of the line shown?



- (1) -3
 - (2) $\frac{1}{3}$
 - (3) 3
 - (4) $-\frac{1}{3}$
 - (5) -1
-

4. Quantity A: The slope of the line parallel to $5x = 15y - 12$

Quantity B: The slope of the line parallel to $2y = -23x - 14$

Which of the following is true?

- (1) Quantity A is larger.
 - (2) The two quantities are equal.
 - (3) The relationship cannot be determined.
 - (4) Quantity B is larger.
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5. If m is a line that has a y -intercept of 3 and an x -intercept of 7, which of the following is the equation of a line that is perpendicular to m ?

- (1) $y = (3x + 11)7$
 - (2) $y = (7x + 15)3$
 - (3) $y = x + 73$
 - (4) $y = (-3x - 24)7$
 - (5) $y = (7 - 7x)3$
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6. Quantity A: The diameter of a circle with area of 109π
Quantity B: The diameter of a circle with circumference of 22π
Which of the following is true?

- (1) Quantity B is larger.
 - (2) The relationship between the quantities cannot be determined.
 - (3) Quantity A is larger.
 - (4) The two quantities are equal.
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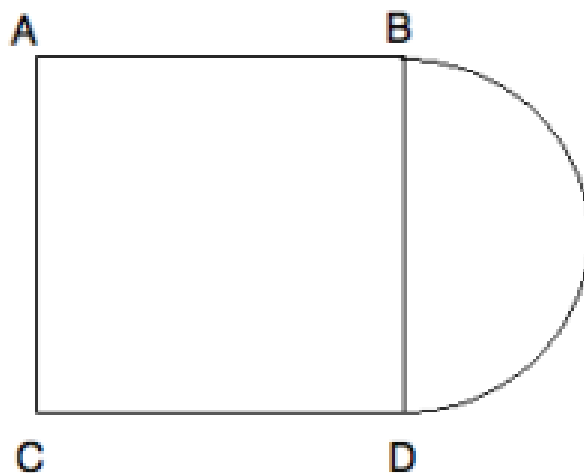
7. Which point could lie on the circle with radius 5 and center $(1, 2)$?

- (1) $(4, 6)$
 - (2) $(3, 4)$
 - (3) $(3, -2)$
 - (4) $(-3, 6)$
 - (5) $(4, -1)$
-

8. If rectangle $ABCD$ has a perimeter of 68, and the longer edge is 2.4 times longer than the shorter edge, then how long is the diagonal AC ?

- (1) 26
 - (2) 32
 - (3) 30
 - (4) 24
 - (5) 13
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9. The diagram represents a square $ABCD$ with a semi-circle directly attached to its side. If the area of the figure is $16 + 2\pi$, what is its outer perimeter?



- (1) 16
- (2) None of the other answers
- (3) $12 + 2\pi$
- (4) $16 + 2\pi$
- (5) 20π

10. An acute isosceles triangle has two sides with length a and one side length b . The length of side $a = 39$ ft. If the length of $b = \frac{1}{2}a$, what is the perimeter of the triangle?

- (1) 1 foot
- (2) 46 foot
- (3) 26 foot
- (4) 10 inches
- (5) 6 inches

11. Quantity A: the area of a right triangle with sides 10, 24, 26
Quantity B: twice the area of a right triangle with sides 5, 12, 13
Which of the following is true?

- (1) Quantity A is greater.
- (2) The relationship cannot be determined.
- (3) Quantity B is greater.
- (4) The two quantities are equal.

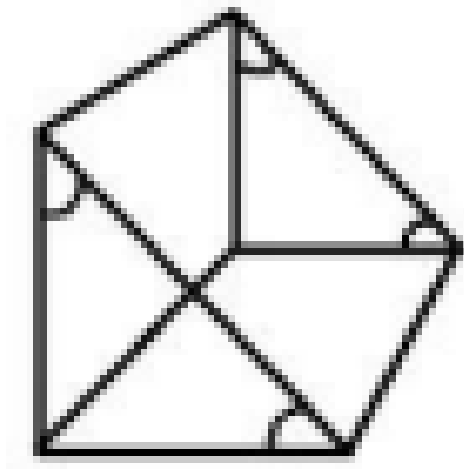
12. What is the length of an edge of a cube with a surface area of 1350 in^2 ?

- (1) 225 in
- (2) 15 in
- (3) 25 in
- (4) 305 in
- (5) 85 in

13. Quantity A: The volume of a cylinder with radius 3 and height 4
Quantity B: 3 times the volume of a cone with radius 3 and height 4
Which of the following is true?

- (1) The relationship cannot be determined.
- (2) The two quantities are equal.
- (3) Quantity B is greater.
- (4) Quantity A is greater.

14. This triangular prism has a height of 3 feet and a length of 7 feet. What is the surface area of the prism?
Round to the nearest tenth.



- (1) 90 ft^2
- (2) 80.7 ft^2
- (3) 80 ft^2
- (4) 81 ft^2

15. How much does the volume of a sphere increase if its radius is increased by 50

- (1) 237.5%
- (2) 50%
- (3) 337.5%
- (4) 150%
- (5) 0.3375%