

GCSE Maths: Coordinates in four quadrants (Higher): worksheet

GCSE Maths - Straight-Line Graphs and Coordinates - Higher - Lesson 12.1

Name: _____

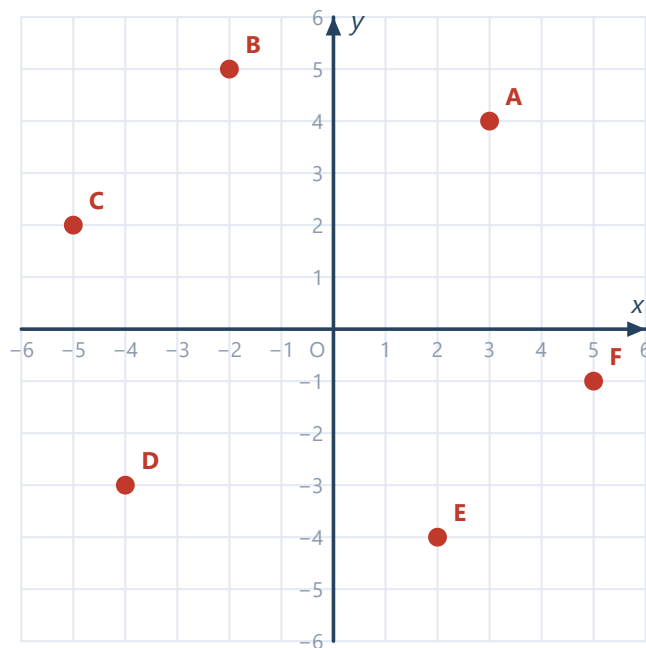
Date: _____

Score: _____

16 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch12-straight-line-graphs-coordinates/higher/coordinates-in-four-quadrants/

Exercise 12A Coordinates and shapes on a grid Non-calculator

1 Write down the coordinates of each of the points A to F.



(a) point A

Answer: _____

(b) point B

Answer: _____

(c) point C

Answer: _____

(d) point D

Answer: _____

(e) point E

Answer: _____

(f) point F

Answer: _____

2 State which quadrant each point is in, or say which axis it is on.

(a) (3, 5)

Answer:

(b) (-2, 4)

Answer:

(c) (-5, -1)

Answer:

(d) (6, -3)

Answer:

(e) (0, -4)

Answer:

(f) (-7, 0)

Answer:

- 3** Plot the points A(-3, -1), B(3, -1), C(3, 2) and D(-3, 2) on a grid. Join them in order. What shape have you drawn?

Answer:

- 4** ABCD is a rectangle. Find the coordinates of D in each case.

(a) A(-4, -2), B(3, -2), C(3, 1)

Answer:

(b) A(-3, 1), B(-3, -3), C(2, -3)

Answer:

(c) A(-5, 4), B(1, 4), C(1, -1)

Answer:

- 5** ABCD is a parallelogram. Find the coordinates of D in each case.

(a) A(-2, -1), B(1, -3), C(5, -3)

Answer:

(b) A(0, 2), B(-3, -1), C(1, -1)

Answer:

(c) A(-4, 3), B(-2, -2), C(3, -2)

Answer:

- 6** Write the coordinates of each point.

(a) P is 4 units to the left of the y -axis and 3 units below the x -axis.

Answer:

(b) Q is 5 units to the right of the y -axis and 2 units above the x -axis.

Answer:

(c) R is on the x -axis, 6 units to the left of the origin.

Answer:

(d) S is on the y-axis, 5 units below the origin.

Answer:

7 Work out the distance between each pair of points. Each pair lies on a horizontal or a vertical line.

(a) $(-3, 2)$ and $(5, 2)$

Answer:

(b) $(4, -1)$ and $(4, 6)$

Answer:

(c) $(-6, -2)$ and $(-6, -7)$

Answer:

(d) $(-2, 3)$ and $(7, 3)$

Answer:

8 A treasure map starts at the point $(-4, 3)$. Follow these moves: 6 right, 5 down, 3 left, 8 up. Write the coordinates of the end point.

Answer:

9 ABCD is a rectangle with vertices $A(-2, -1)$, $B(4, -1)$, $C(4, 3)$ and $D(-2, 3)$. Work out (a) the perimeter and (b) the area of the rectangle.

Answer:

10 Work out the area of each right-angled triangle. Its two shorter sides are parallel to the axes.

(a) $A(-4, 1)$, $B(2, 1)$, $C(2, -3)$

Answer:

(b) $A(1, -2)$, $B(1, 4)$, $C(6, -2)$

Answer:

11 Sam plots the point $(-2, 5)$. He says it is in Quadrant 4. Is he correct? Explain.

Answer:

12 A is $(1, 3)$, B is $(4, 3)$ and C is $(4, -2)$. Show that triangle ABC has a right angle, and say which vertex it is at.

Answer:

13 ABCD is a square. A is $(-2, -2)$ and C is $(2, 2)$. A and C are opposite corners and the sides are parallel to the axes. Find the coordinates of B and D, and the area of the square.

Answer:

14 On a map, the school is at $(-3, 2)$. The park is 5 km east and 4 km south of the school. The library is directly north of the park, level with the school. Find: (a) the coordinates of the park, (b) the coordinates of the library, (c) the distance from the school to the library.

(a) the park

Answer:

(b) the library

Answer:

(c) the distance from the school to the library

Answer:

- 15** The point $P(a, 3)$ is on the y -axis. The point $Q(-2, b)$ is on the x -axis. Find a and b , and write down the coordinates of P and Q .

Answer:

- 16** $A(-3, -2)$ and $C(5, 4)$ are opposite corners of a rectangle $ABCD$ whose sides are parallel to the axes. Find the two possible positions for B (and the matching D).

Answer: