

Grade 6 - The Coordinate Plane and Polygons - Worksheet

Common Core 6.NS.C.6b, 6.NS.C.6c, 6.NS.C.8, 6.G.A.3 · maths-pdf.fr/en/

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

These 20 problems practice the four-quadrant coordinate plane (Common Core 6.NS.C.6b, 6.NS.C.6c, 6.NS.C.8, and 6.G.A.3). You will name and plot points, reflect points across axes, find distances, and draw polygons to find side lengths, perimeter, and area.

Grade 6 · Common Core State Standards: **6.NS.C.6b, 6.NS.C.6c, 6.NS.C.8, 6.G.A.3**

Exercise 1 - Name the quadrant

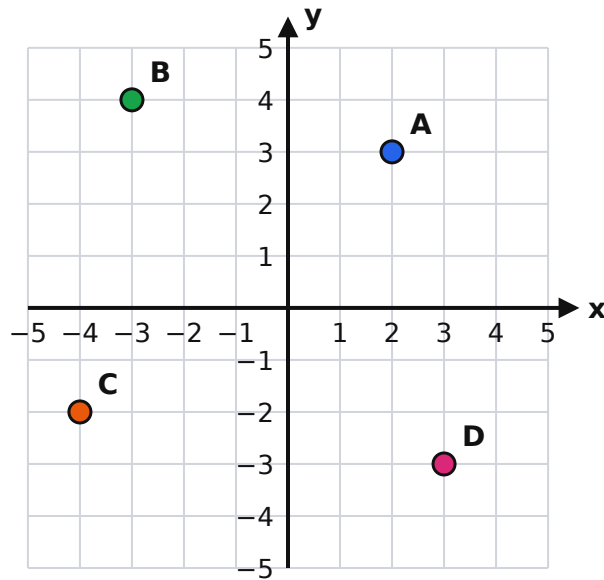
Name the quadrant of each point.

- a. (3,5)
- b. (-4,2)
- c. (-3,-6)
- d. (5,-1)

Exercise 2 - Points on an axis

The point (0,-4) has an x-coordinate of 0. On which axis does it lie? Describe how to plot it.

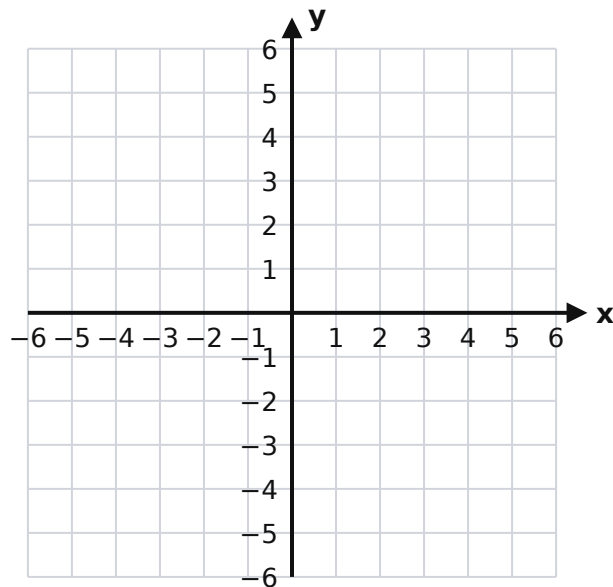
Exercise 3 - Read ordered pairs



Four points on the coordinate plane.

Write the ordered pair for each of the points A, B, C, and D.

Exercise 4 - Plot the points



Coordinate plane.

Plot and label the points $P(4, -2)$, $Q(-1, -3)$, and $R(0, 5)$.

Exercise 5 - Reflect across the x-axis

Reflect the point $(3,4)$ across the x-axis. Give the new coordinates.

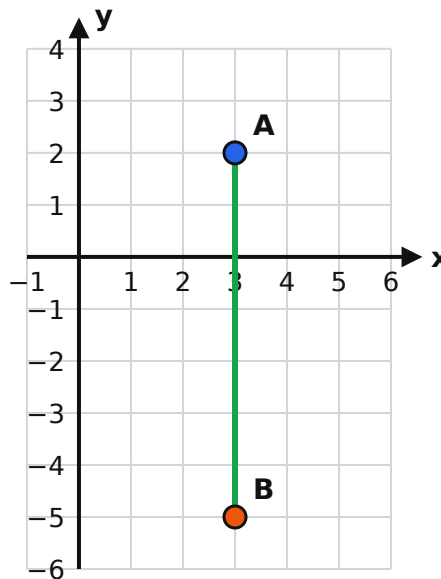
Exercise 6 - Reflect across the y-axis

Reflect the point $(-5,2)$ across the y-axis. Give the new coordinates.

Exercise 7 - Reflect across both axes

The point $(2,-6)$ is reflected across the x-axis and then across the y-axis. Find the final point and name its quadrant.

Exercise 8 - Distance with the same x



A vertical segment.

Find the distance between $A(3,2)$ and $B(3,-5)$.

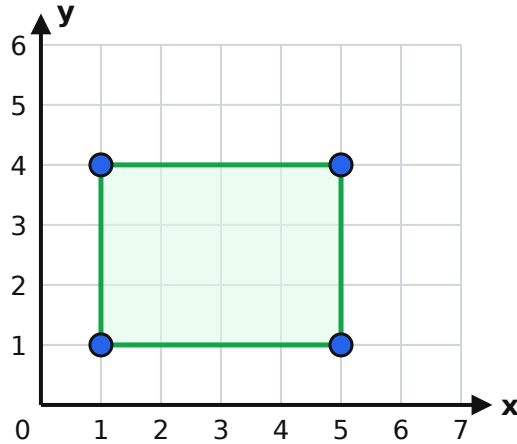
Exercise 9 - Distance with the same y

Find the distance between $(-4,3)$ and $(2,3)$.

Exercise 10 - Distance in Quadrant III and II

Find the distance between $(-7,-2)$ and $(-7,5)$.

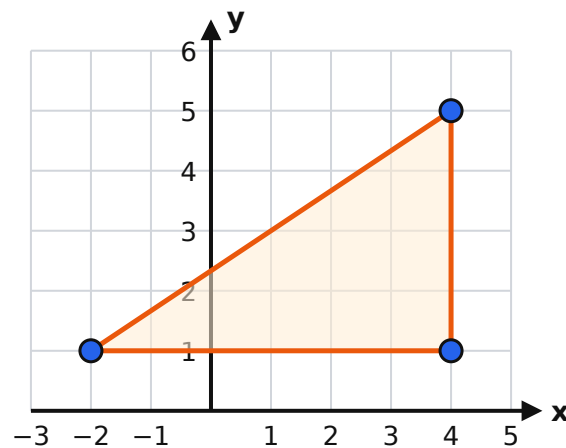
Exercise 11 - Rectangle on the plane



A rectangle.

A rectangle has vertices $(1, 1)$, $(5, 1)$, $(5, 4)$, and $(1, 4)$. Find its perimeter and area.

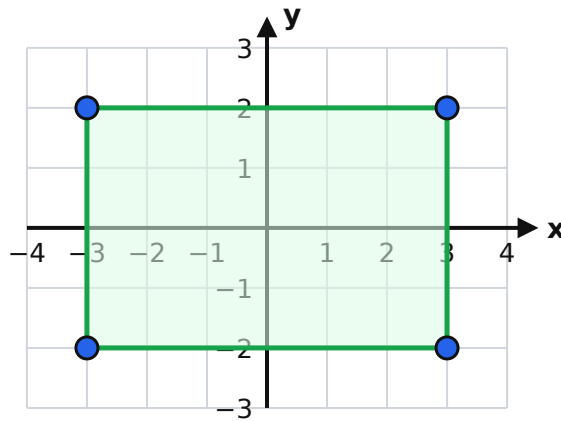
Exercise 12 - Right triangle



A right triangle.

A triangle has vertices $(-2, 1)$, $(4, 1)$, and $(4, 5)$. Find the length of the horizontal side, the length of the vertical side, and the area.

Exercise 13 - Rectangle across quadrants



A rectangle centered at the origin.

Find the length, width, and perimeter of the rectangle with vertices $(-3, -2)$, $(3, -2)$, $(3, 2)$, and $(-3, 2)$.

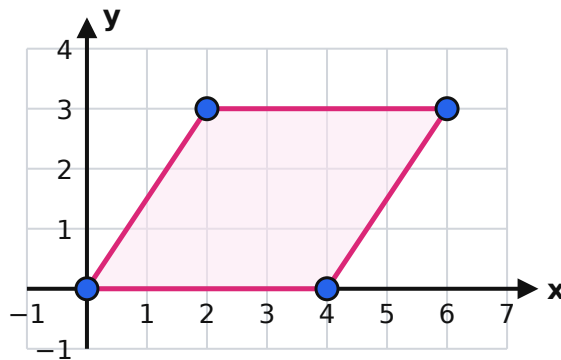
Exercise 14 - Missing vertex

Three vertices of a rectangle are $(2,1)$, $(6,1)$, and $(6,5)$. Find the fourth vertex.

Exercise 15 - Walking blocks

On a city map, each unit is one block. The library is at $(3, 4)$ and the park is at $(-2, -3)$. If you can only walk along the grid lines, how many blocks is the walk from the library to the park?

Exercise 16 - Parallelogram area



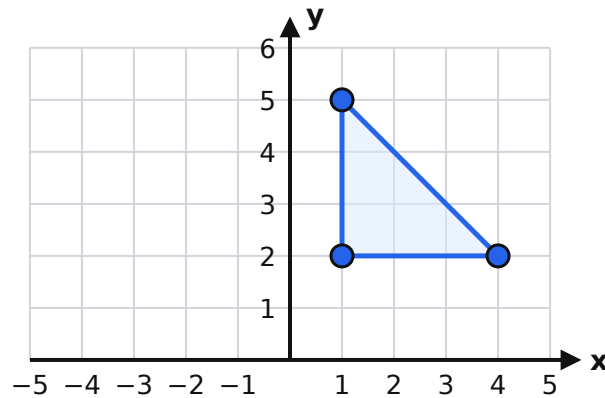
A parallelogram.

A parallelogram has vertices $(0, 0)$, $(4, 0)$, $(6, 3)$, and $(2, 3)$. Find the base, the height, and the area.

Exercise 17 - Square on the plane

A square has vertices $(-5, 1)$, $(-1, 1)$, $(-1, -3)$, and $(-5, -3)$. Find the side length, the perimeter, and the area.

Exercise 18 - Reflect a triangle



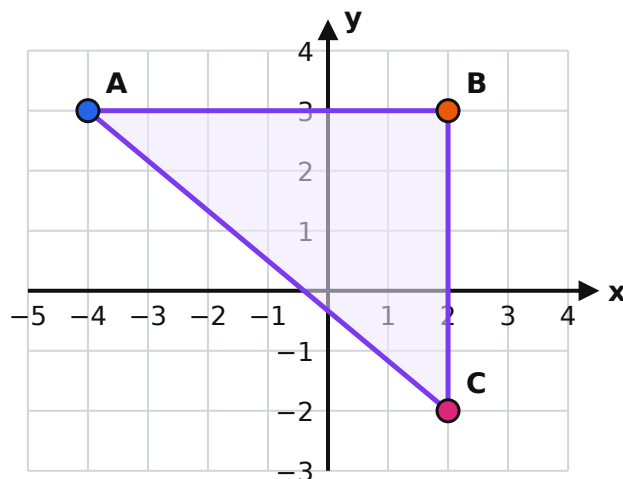
Triangle to reflect.

Reflect the triangle with vertices $(1, 2)$, $(4, 2)$, and $(1, 5)$ across the y -axis. Give the new vertices.

Exercise 19 - Dog park fence

A dog park has corners at $(-3, -1)$, $(5, -1)$, $(5, 3)$, and $(-3, 3)$. Each unit on the grid is 10 feet. Find the length of fence needed to go around the park.

Exercise 20 - Triangle in three quadrants



Triangle ABC.

Triangle ABC has A(-4, 3), B(2, 3), and C(2, -2). Name the quadrant of each point, then find the lengths AB and BC and the area.