THIRD SPACE LEARNING

# Plot Points on a Graph Worksheet

Algebra

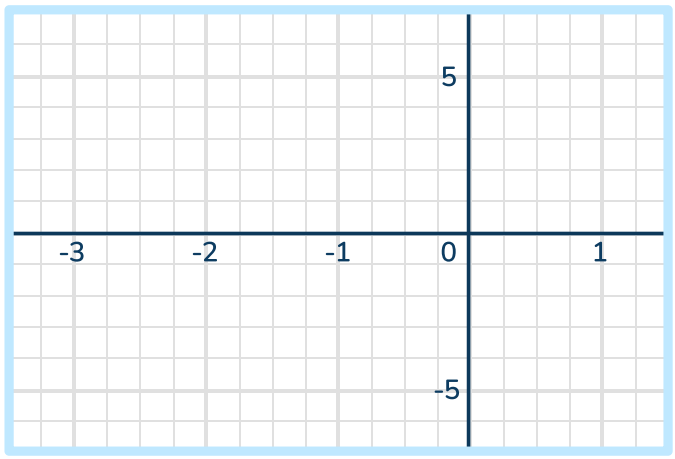
Grades 6 to 8

# Skill Questions

Name: .....

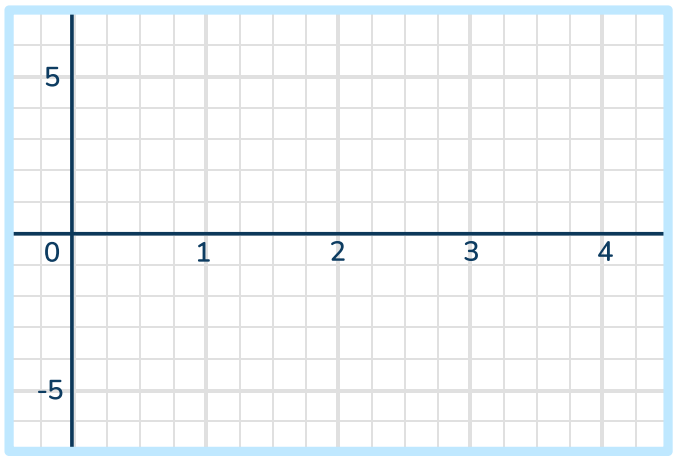
Date: .....

**1** Plot the point (-3, 5) and name the quadrant it is in.




*Answer*

**2** Plot the point (4, -2) and name the quadrant it is in.




*Answer*

**3** Name the quadrants in which each of the points are located.

a) (1,7)

*Answer*

b) (-10, -19)

*Answer*

c) (8, -4)

*Answer*

4 Find the distance between the points (-3, 1) and (2, 1).

*Answer*

5 What is the distance between the points (3, -3) and (3, 4)?

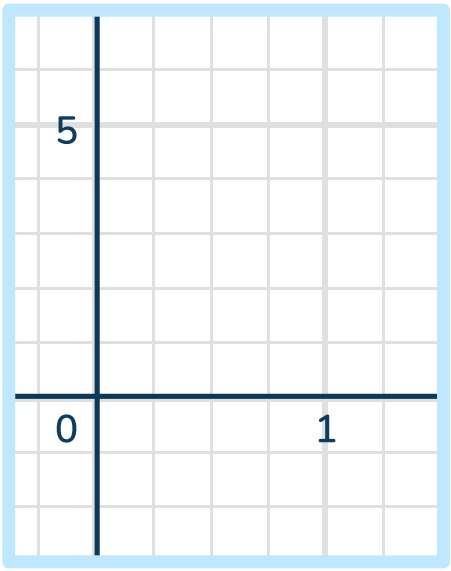
*Answer*

6 Explain where the point (0, 4) lands on the coordinate graph.

*Answer*

**7** The table below represents 4 ordered pairs. Plot the points and name the figure that is formed.

| $x$ | $y$ |
|---|---|
| 0 | 1 |
| 0 | 5 |
| 1 | 5 |
| 1 | 1 |




*Answer*

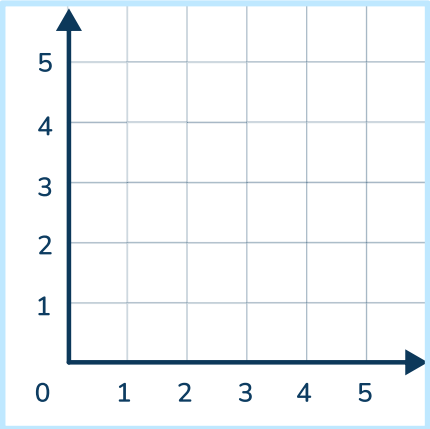
**8** Find the perimeter of the figure in question #6.

*Answer*

9 On a map of a city, the post office is at the coordinate (-2, -2) and the coffee shop is at the coordinate (-2, 4)? If each unit on the map is a city block, how many city blocks are there between the post office and the coffee shop?

*Answer*

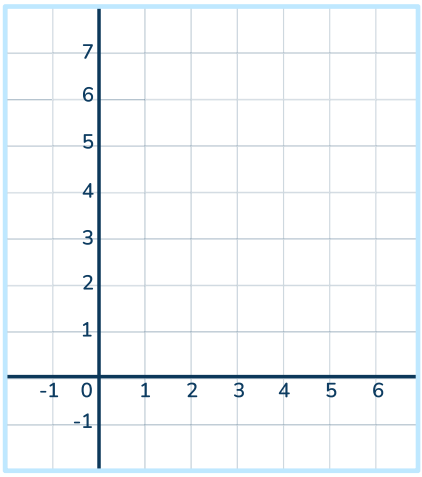
10 Plot the points (1,1), (1,4), (4,1), and (4,4) on a coordinate plane. Connect these points to form a closed figure. Calculate the area of the figure.



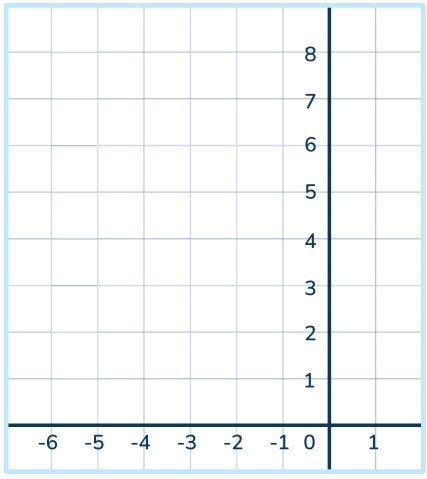

*Answer*

# Applied Questions

**11** Sarah is designing a garden bed in her backyard. She plans to create a pentagon-shaped flower bed using stakes at the vertices. If the vertices of the pentagon are at the points (0,0), (4,1), (5,4), (3,6), and (1,4), plot these points on a graph and connect them to form the pentagon.

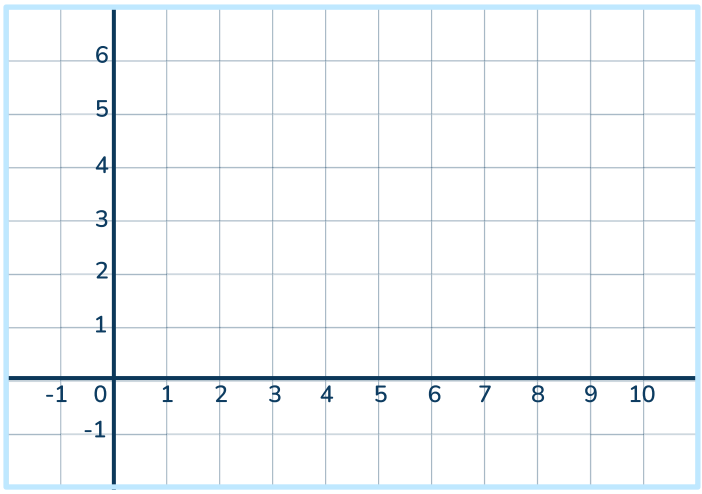



**12** A farmer is designing a new barn. He wants the barn to have a rectangular shape with one side along the y-axis. If the barn's upper-right corner is at the point (0,8) and the lower-left corner is at (–5,0), plot these points on a graph and find the missing points to complete the barn.




*Answer*

13 A school is planning to build a new playground with a rectangular area for soccer practice. If the upper-right corner of the soccer field is at the point (10,5) and the lower-left corner is at (2,0), plot these points on a graph and find the area of the soccer field.

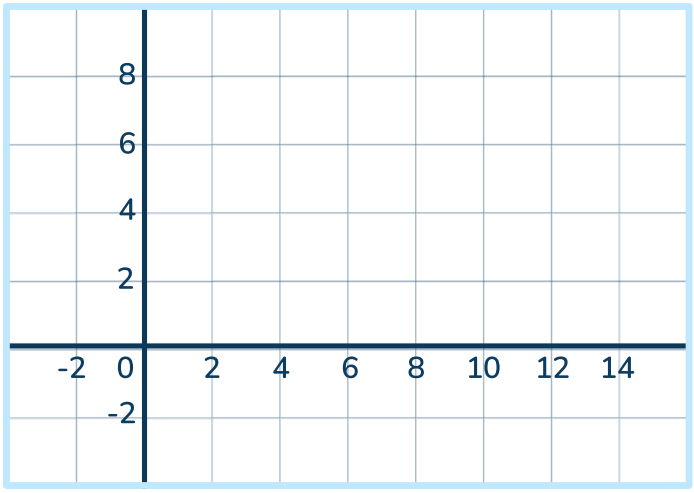



*Answer*

14 Create a rectangle on the coordinate plane where each vertex is in a different quadrant, and then find the perimeter of the rectangle you created.

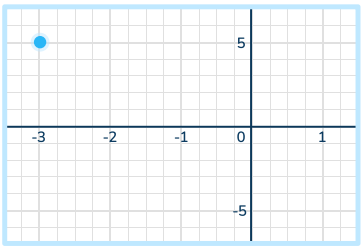
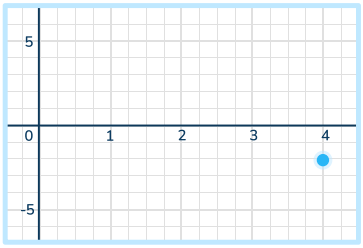
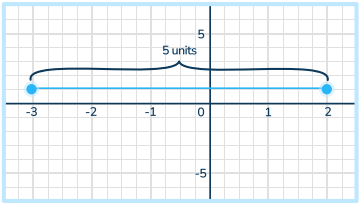
*Answer*

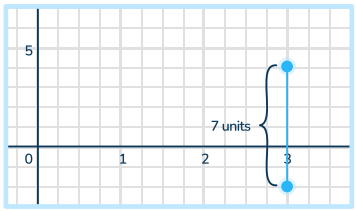
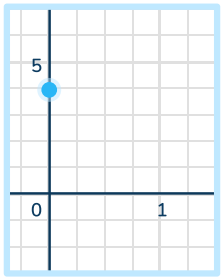
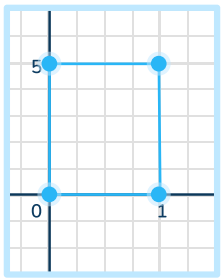
15 A company is constructing a new office building. The building has a rectangular floor plan with one side along the $x$-axis. If the upper-right corner of the building is at the point (12,8) and the lower-left corner is at (4,0), plot these points and give the dimensions of the office building.

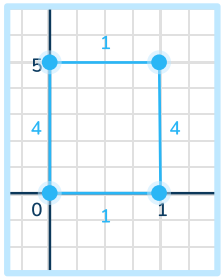
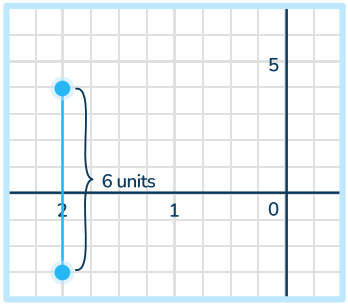
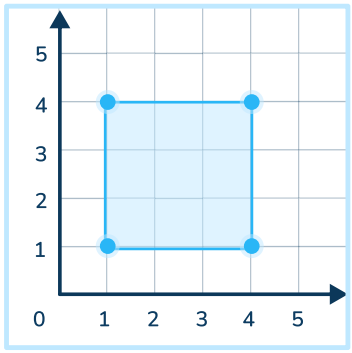


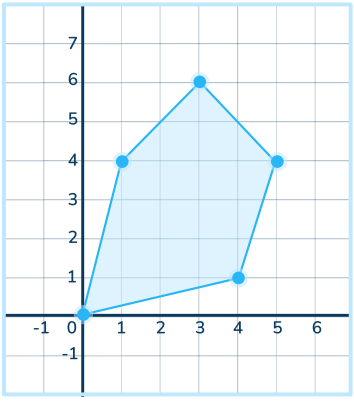
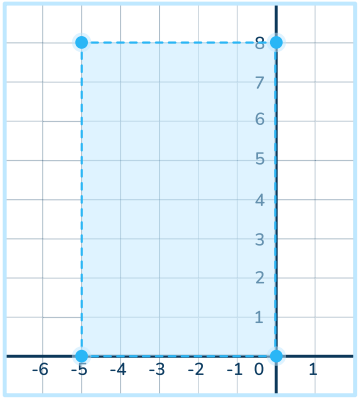
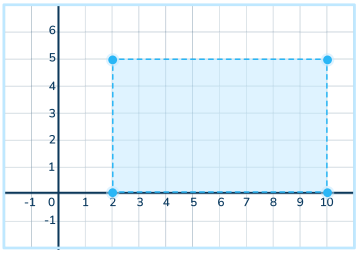

*Answer*

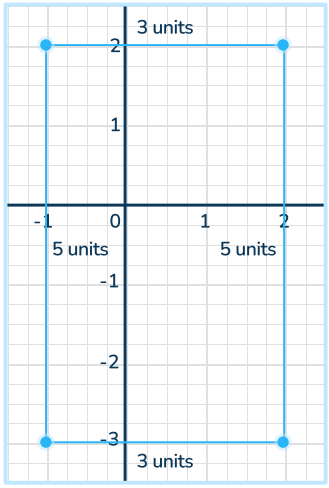
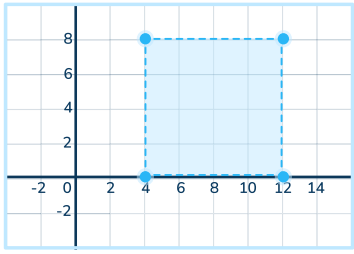
# Answers

| Question number | Question | Answers | Standard |
|---|---|---|---|
| 1 | Plot the point (-3, 5) and name the quadrant it is in. |  <br>Quadrant II | 6.NS.C.6b |
| 2 | Plot the point (4, -2) and name the quadrant it is in. |  <br>Quadrant IV | 6.NS.C.6b |
| 3 | Name the quadrants in which each of the points are located.<br>a) (1,7)<br>b) (-10, -19)<br>c) (8, -4) | a) Quadrant I<br>b) Quadrant III<br>c) Quadrant IV | 6.NS.C.6b |
| 4 | Find the distance between the points (-3, 1) and (2, 1). |  <br>Counting the units, there are 5 units between the points. | 6.G.A.3 |

| Question number | Question | Answers | Standard |
|---|---|---|---|
| 5 | What is the distance between the points (3, -3) and (3, 4)? |  <br>There are 7 units between the points. | 6.G.A.3 |
| 6 | Explain where the point (0, 4) lands on the coordinate graph. | The point (0,4) has an $x$-coordinate of 0 and a $y$-coordinate of 4. So, starting at the origin, do not move any units right or left because the $x$-coordinate is 0. Move up 4 units because the $y$-coordinate is 4. The point is on the $y$-axis.<br>  | 6.NS.C.6b |
| 7 | The table below represents 4 ordered pairs. Plot the points and name the figure that is formed.<br>$x$ \| $y$<br>0 \| 1<br>0 \| 5<br>1 \| 5<br>1 \| 1 |  <br>The points form a rectangle. | 6.G.A.3 |

| Question number | Question | Answers | Standard |
|---|---|---|---|
| 8 | Find the perimeter of the figure in question #6. |  <br>Perimeter = 4 + 4 + 1 + 1<br>Perimeter = 10 units | 6.G.A.3 |
| 9 | On a map of a city, the post office is at the coordinate (-2, -2) and the coffee shop is at the coordinate (-2, 4)? If each unit on the map is a city block, how many city blocks are there between the post office and the coffee shop? | There are 6 blocks between the post office and the coffee shop.<br>  | 6.G.A.3 |
| 10 | Plot the points (1,1), (1,4), (4,1), and (4,4) on a coordinate plane. Connect these points to form a closed figure. Calculate the area of the figure. |  <br>Each side is 3 units in length. Area = l x w<br>Area = 3 x 3<br>Area = 9 units² | 6.G.A.3 |

| Question number | Question | Answers | Standard |
|---|---|---|---|
| 11 | Sarah is designing a garden bed in her backyard. She plans to create a pentagon-shaped flower bed using stakes at the vertices. If the vertices of the pentagon are at the points (0,0), (4,1), (5,4), (3,6), and (1,4), plot these points on a graph and connect them to form the pentagon. |  | 6.G.A.3 |
| 12 | A farmer is designing a new barn. He wants the barn to have a rectangular shape with one side along the $y$-axis. If the barn's upper-right corner is at the point (0,8) and the lower-left corner is at (–5,0), plot these points on a graph and find the missing points to complete the barn. | (0,0) and (–5,6)<br>  | 6.G.A.3 |
| 13 | A school is planning to build a new playground with a rectangular area for soccer practice. If the upper-right corner of the soccer field is at the point (10,5) and the lower-left corner is at (2,0), plot these points on a graph and find the area of the soccer field. | 8 x 5 = 40 units²<br>  | 6.G.A.3 |

| Question number | Question | Answers | Standard |
|---|---|---|---|
| 14 | Create a rectangle on the coordinate plane where each vertex is in a different quadrant, and then find the perimeter of the rectangle you created. | Answers vary:<br>Vertices of rectangle (-1, 2), (-1,-3), (2, 2) and (2, -3)<br><br>Perimeter = 3 + 3 + 5 + 5<br>Perimeter = 16 units<br>  | 6.G.A.3 |
| 15 | A company is constructing a new office building. The building has a rectangular floor plan with one side along the -axis. If the upper-right corner of the building is at the point (12,8) and the lower-left corner is at (4,0), plot these points and give the dimensions of the office building. | 8 units x 8 units<br>  | 6.G.A.3 |

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