

COORDINATE PLANE DISTANCES

If the points lie in the same quadrant, subtract the absolute values of the appropriate coordinates.
 If the points lie in different quadrants, add the absolute values of the appropriate coordinates.

Find the distance between the pair of points.

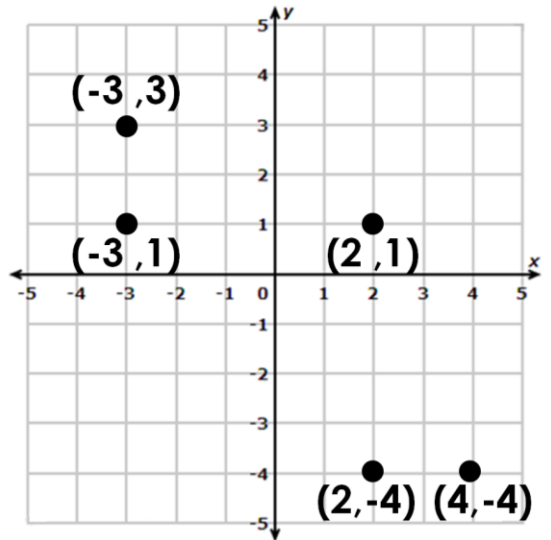
1. $(-3, 1)$ and $(2, 1)$

Different quadrants, so add the absolute values.

Horizontal distance from $(-3, 1)$ to y-axis: $|___| = ___$

Horizontal distance from $(2, 1)$ to y-axis: $|___| = ___$

Distance from $(-3, 1)$ to $(2, 1)$ is $___ + ___ = ___$.



2. $(-3, 3)$ and $(-3, 1)$

Same quadrant, so subtract the absolute values.

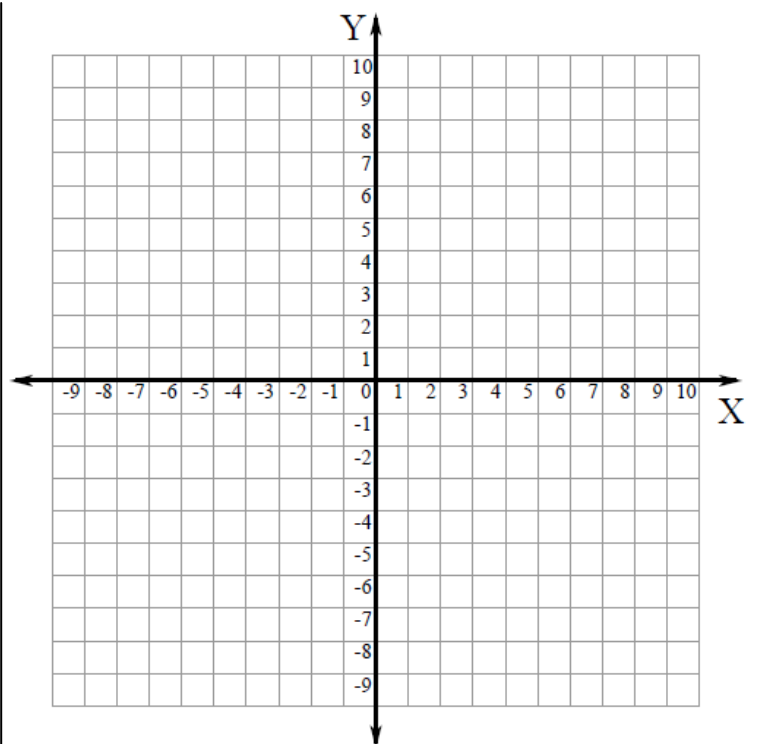
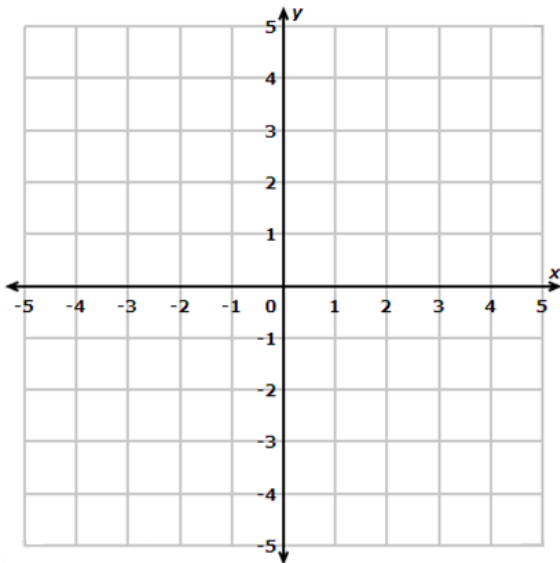
Vertical distance from $(-3, 3)$ to $(-3, 1)$:

$|___| = ___$ and $|___| = ___$ so $___ - ___ = ___$.

3. $(2, 1)$ and $(2, -4)$ _____ quadrant _____

4. $(2, -4)$ and $(4, -4)$ _____ quadrant _____

Plot and label the points on these grids, then find the distance between them.



5. $(0, 5)$ and $(0, -5)$ _____

6. $(1, 1)$ and $(1, -3)$ _____

7. $(-2, -5)$ and $(-2, -1)$ _____

8. $(-7, 3)$ and $(5, 3)$ _____

9. $(3, -6)$ and $(3, -10)$ _____

10. $(8, 0)$ and $(8, -8)$ _____

Find the distance between the pair of points, following the example:

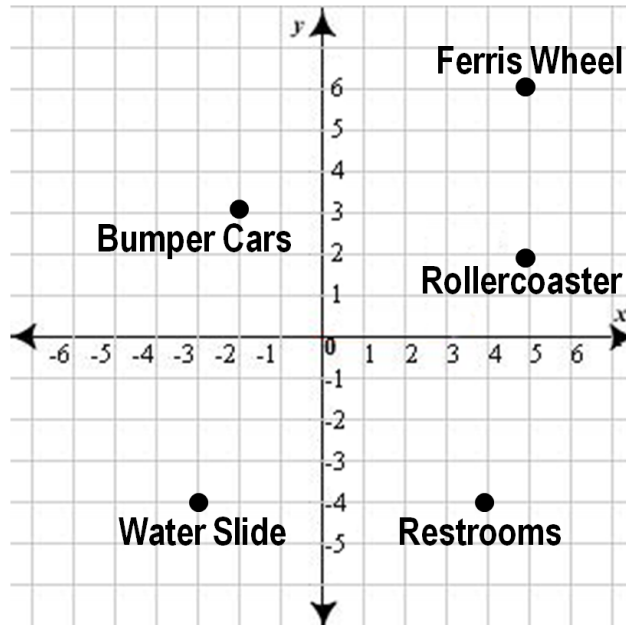
example: $(1, 4)$ and $(-3, 4)$ $|1| = 1; |-3| = 3$ $1 + 3 = 4$ **4 units**

1. $(7, -2)$ and $(11, -2)$ _____
2. $(6, 4)$ and $(6, -8)$ _____
3. $(8, -10)$ and $(5, -10)$ _____
4. $(-2, -6)$ and $(-2, 5)$ _____
5. $(-5, 2)$ and $(-5, -4)$ _____

Write the coordinates of two points that are the given distance from these points and horizontal/vertical:

6. 5 units from $(-1, -2)$ $(\quad , -2)$ and $(\quad , -2)$ _____
7. 8 units from $(2, 4)$ $(2, \quad)$ and $(2, \quad)$ _____
8. 3 units from $(-7, -5)$ $(-7, \quad)$ and $(-7, \quad)$ _____
9. 6 units from $(4, -1)$ $(4, \quad)$ and $(4, \quad)$ _____
10. 10 units from $(-1, 9)$ $(\quad , 9)$ and $(\quad , 9)$ _____
11. 7 units from $(-3, 2)$ $(\quad , 2)$ and $(\quad , 2)$ _____

The map shows the location of several areas in an amusement park. Each unit represents 1 kilometer.



12. How far is the Ferris wheel from the rollercoaster? _____
13. How far is the water slide from the restrooms? _____
14. Which of the following values could be the y-coordinate of the point $(10, \quad)$ that is 13 units from $(10, 6)$?
 A. 17 B. 3 C. -1 D. -7
15. What is the distance between the points $(4, -7)$ and $(-5, -7)$?
 A. 1 unit B. 3 units C. 7 units D. 9 units