

Lesson 5

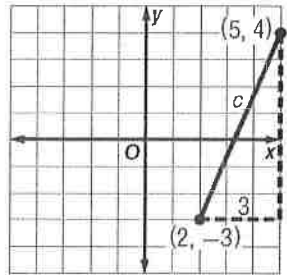
Distance on the Coordinate Plane

You can use the Pythagorean Theorem to find the distance between two points on the coordinate plane.

Example

Graph the ordered pairs $(2, -3)$ and $(5, 4)$. Then determine the distance c between the two points using the Pythagorean Theorem.

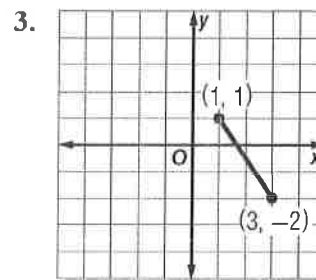
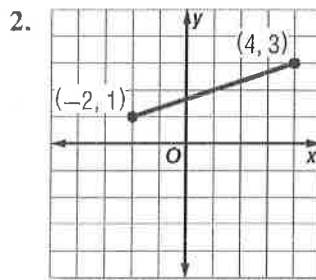
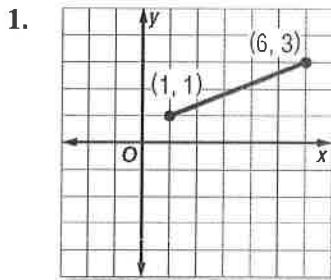
$a^2 + b^2 = c^2$	The Pythagorean Theorem
$3^2 + 7^2 = c^2$	Replace a with 3 and b with 7.
$58 = c^2$	$3^2 + 7^2 = 9 + 49$, or 58.
$\pm\sqrt{58} = \sqrt{c}$	Definition of square root
$\pm 7.6 \approx c$	Use a calculator.



The points are about 7.6 units apart.

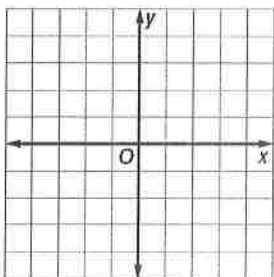
Exercises

Determine the distance between each pair of points. Round to the nearest tenth if necessary.

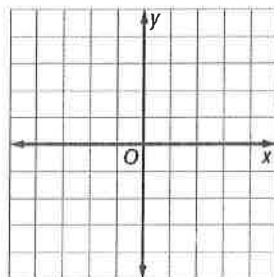


Graph each pair of ordered pairs. Then determine the distance between the points using the Pythagorean Theorem. Round to the nearest tenth if necessary.

4. $(4, 5), (0, 2)$



5. $(0, -4), (-3, 0)$



6. $(-1, 1), (-4, 4)$

