



## Distance Formula

### About These Problems

The distance formula uses the Pythagorean theorem to find the distance between any two points. It creates a makeshift triangle between the points and then uses the Pythagorean theorem to find the distance between them.

**Formula.**  $d$  is the distance from  $(x_1, y_1)$  to  $(x_2, y_2)$

$$d = ((y_2 - y_1)^2 + (x_2 - x_1)^2)^{(1/2)}$$

**Question.** Find the distance from (4,5) to (2,3).

1. (4,6)
2. (3,5)
3. (3,6)
4. (4,5)
5. (7,8)

**Answer. 1:** Plug the points into the distance formula and solve.

$$((3 - 5)^2 + (2 - 4)^2)^{(1/2)} = 8^{(1/2)}$$