

Start Tasks — Answers



1. From $(0, 0)$ to $(3, 4)$, find the horizontal change, the vertical change, and the distance.



Solution

$$\Delta x = 3, \Delta y = 4$$

$$d = \sqrt{3^2 + 4^2} = \sqrt{25} = 5$$

2. From $(1, 2)$ to $(4, 6)$, find the distance.



Solution

$$\Delta x = 3, \Delta y = 4$$

$$d = \sqrt{3^2 + 4^2} = \sqrt{25} = 5$$

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3. From (2, 1) to (7, 13), find the distance.



Solution

$$\Delta x = 5, \Delta y = 12$$

$$d = \sqrt{5^2 + 12^2} = \sqrt{169} = 13$$

4. From (2, 3) to (8, 11), find the distance.

Solution

$$\Delta x = 6, \Delta y = 8$$

$$d = \sqrt{6^2 + 8^2} = \sqrt{100} = 10$$

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5. From $(4, 5)$ to $(11, 29)$, find the distance.

Solution

$$\Delta x = 7, \Delta y = 24$$

$$d = \sqrt{7^2 + 24^2} = \sqrt{625} = 25$$

6. From $(-1, 1)$ to $(2, 5)$, find the distance.

Solution

$$\Delta x = 3, \Delta y = 4$$

$$d = \sqrt{3^2 + 4^2} = \sqrt{25} = 5$$

7. From $(-2, -3)$ to $(3, 9)$, find the distance.

Solution

$$\Delta x = 5, \Delta y = 12$$

$$d = \sqrt{5^2 + 12^2} = \sqrt{169} = 13$$

8. From $(-3, -1)$ to $(4, 23)$, find the distance.

Solution

$$\Delta x = 7, \Delta y = 24$$

$$d = \sqrt{7^2 + 24^2} = \sqrt{625} = 25$$

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9. From $(1, -2)$ to $(9, 13)$, find the distance.

Solution

$$\Delta x = 8, \Delta y = 15$$

$$d = \sqrt{8^2 + 15^2} = \sqrt{289} = 17$$

11. Two points are $(3, 7)$ and $(10, 31)$. Which Pythagorean triple helps? Then find the distance.

Solution

$$\Delta x = 7, \Delta y = 24: \text{the } 7:24:25 \text{ triple}$$

$$d = 25$$

10. Two points are $(0, 0)$ and $(12, 16)$. Which Pythagorean triple helps? Then find the distance.

Solution

$$\Delta x = 12, \Delta y = 16: \text{the } 3:4:5 \text{ triple } \times 4$$

$$d = 20$$

12. Two points are $(-6, 2)$ and $(2, 17)$. Which Pythagorean triple helps? Then find the distance.

Solution

$$\Delta x = 8, \Delta y = 15: \text{the } 8:15:17 \text{ triple}$$

$$d = 17$$