

## Distance Formula

L2S4

Example: Find the distance between the points  $\left(\frac{2}{3}, 4\right)$  and  $(4, -6)$ .

$$\begin{aligned} \text{Distance} &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ &= \sqrt{\left(4 - \frac{2}{3}\right)^2 + (-6 - 4)^2} \\ &= \sqrt{\left(\frac{10}{3}\right)^2 + (-10)^2} = \sqrt{\frac{100}{9} + 100} = \sqrt{111.11} \approx 10.54 \text{ units} \end{aligned}$$

Find the distance between the points. Round the answer to two decimal places.

1)  $(0, -7), (4, 2)$

\_\_\_\_\_

3)  $\left(3, -\frac{1}{3}\right), (-2, -1)$

\_\_\_\_\_

5)  $(8, -10), \left(-4, \frac{3}{5}\right)$

\_\_\_\_\_

7)  $(-3, 7), (-1, 9)$

\_\_\_\_\_

9)  $(10, -1), \left(3, -\frac{4}{7}\right)$

\_\_\_\_\_

10)  $(7, 3), (2, 3)$

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Find the distance between the points. Round the answer to two decimal places.

1)  $(0, -7), (4, 2)$

$$\sqrt{97} \approx 9.85$$

10.6 units

3)  $\left(3, -\frac{1}{3}\right), (-2, -1)$

$$\sqrt{25.44} \approx 5.04$$

5.04 units

5)  $(8, -10), \left(-4, \frac{3}{5}\right)$

$$\sqrt{256.36} \approx 16.16$$

16.16 units

7)  $(-3, 7), (-1, 9)$

$$\sqrt{8} \approx 2.83 \text{ units}$$

$$\sqrt{20.86} \approx 4.57 \text{ units}$$

9)  $(10, -1), \left(3, -\frac{4}{7}\right)$

$$\sqrt{49.18} \approx 7.01 \text{ units}$$

10)  $(7, 3), (2, 3)$

5 units

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