

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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