

## Distance Formula

L2S3

Example: Find the distance between the points  $(-1, 8)$  and  $(\frac{3}{7}, 9)$ .

$$\begin{aligned} \text{Distance} &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ &= \sqrt{\left(\frac{3}{7} + 1\right)^2 + (9 - 8)^2} \\ &= \sqrt{\left(\frac{10}{7}\right)^2 + (1)^2} = \sqrt{\frac{100}{49} + 1} = \sqrt{3.04} \approx 1.74 \text{ units} \end{aligned}$$

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

1)  $(10, 9), (0, \frac{5}{8})$

3)  $(3, -6), (5, 4)$

5)  $(\frac{1}{9}, 7), (2, 5)$

7)  $(-4, 8), (6, 1)$

9)  $(2, 0), (-10, -5)$

10)  $(9, 4), (6, \frac{7}{8})$

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