

Distance Formula

L2S1

Example: Find the distance between the points $(3, \frac{1}{4})$ and $(-2, 1)$.

$$\begin{aligned} \text{Distance} &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ &= \sqrt{(-2 - 3)^2 + (1 - \frac{1}{4})^2} \\ &= \sqrt{(-5)^2 + (\frac{3}{4})^2} = \sqrt{25 + \frac{9}{16}} = \sqrt{25.56} \approx \mathbf{5.06 \text{ units}} \end{aligned}$$

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

1) $(-\frac{1}{2}, 3), (6, 9)$

3) $(1, 5), (7, -3)$

5) $(5, \frac{2}{3}), (8, 4)$

7) $(-9, 1), (10, 7)$

9) $(6, -5), (-\frac{5}{6}, 10)$

10) $(3, 3), (-7, 0)$

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