

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

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

$$\sqrt{78.25} \approx 8.85$$

2.65 units

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

10 units

13.84 units

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

$$\sqrt{20.11} \approx 4.48$$

4.1 units

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

$$\sqrt{397} \approx 19.92 \text{ units}$$

$$\sqrt{86.06} \approx 9.28 \text{ units}$$

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

$$\sqrt{271.69} \approx 16.48 \text{ units}$$

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

$$\sqrt{109} \approx 10.44 \text{ units}$$

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