

Midpoint Formula

MS3

Example: Find the midpoint of the line segment with the endpoints (3, -2) and (-5, 4).

$$\begin{aligned} \text{Midpoint} &= \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = \left(\frac{3 + (-5)}{2}, \frac{-2 + 4}{2} \right) \\ &= (-1, 1) \end{aligned}$$

Find the midpoint of the line segment with the given endpoints.

1) (1, 2), (2, 3)

3) (-4, 5), (-10, 7)

5) $\left(-\frac{1}{7}, 8\right)$, (-7, 2)

7) (5.4, -5), (11, -3)

9) (-3, -2), (-0.6, -4)

10) (5, -8), (-7, -10)

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Example: Find the midpoint of the line segment with the endpoints (3, -2) and (-5, 4).

$$\begin{aligned} \text{Midpoint} &= \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = \left(\frac{3 + (-5)}{2}, \frac{-2 + 4}{2} \right) \\ &= (-1, 1) \end{aligned}$$

Find the midpoint of the line segment with the given endpoints.

1) (1, 2), (2, 3)

$\left(\frac{3}{2}, \frac{5}{2}\right)$ or (1.5, 2.5)

3) (-4, 5), (-10, 7)

$(-7, 6)$

5) $\left(-\frac{1}{7}, 8\right)$, (-7, 2)

$\left(-\frac{25}{7}, 5\right)$ or $(-3.57, 5)$

7) (5.4, -5), (11, -3)

$(8.2, -4)$

$\left(\frac{5}{4}, 4\right)$ or (1.25, 4)

9) (-3, -2), (-0.6, -4)

$(-1.8, -3)$

10) (5, -8), (-7, -10)

$(-1, -9)$

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