

## Calculating $\Delta x$ and $\Delta y$

SAD 1

**Instructions:** Calculate  $\Delta x$  and  $\Delta y$  for each pair of coordinates below.

**Equations:**  $\Delta x = x_2 - x_1$        $\Delta y = y_2 - y_1$

1 P1 (6, -2) P2 (-3, 5)

$$\begin{aligned}\Delta x &= x_2 - x_1 & \Delta y &= y_2 - y_1 \\ &= -3 - 6 & &= 5 - (-2) \\ \Delta x &= -9 & \Delta y &= 7\end{aligned}$$

2 P1 (-1, -3) P2 (-7, 0)

3 P1 (8, -2) P2 (0, 2)

4 P1 (1, -10) P2 (4, 4)

5 P1 (0, 2) P2 (-1, 10)

6 P1 (6, -4) P2 (7, 3)

7 P1 (7, 7) P2 (5, 3)

8 P1 (-8, -5) P2 (-1, -2)

## Using Slope & Distance Equations

SAD 2

**Instructions:** Use the 'deltas' given below to calculate the slope of the line they form.

**Equation:**  $\text{slope} = \frac{\Delta y}{\Delta x}$

1  $\Delta x = 5$  ,  $\Delta y = 3$

$$\text{slope} = \frac{\Delta y}{\Delta x} = \left(\frac{3}{5}\right) \text{ or } 0.6$$

2  $\Delta x = -2$  ,  $\Delta y = 2$

3  $\Delta x = 5$  ,  $\Delta y = -1$

4  $\Delta x = -12$  ,  $\Delta y = -4$

5  $\Delta x = 8$  ,  $\Delta y = 10$

6  $\Delta x = 3$  ,  $\Delta y = -9$

**Instructions:** Use the 'deltas' given to calculate the distance between the points that define them.

**Equation:**  $d = \sqrt{(\Delta x)^2 + (\Delta y)^2}$

1  $\Delta x = 3$  ,  $\Delta y = -4$

2  $\Delta x = -6$  ,  $\Delta y = 1$

$$\begin{aligned} d &= \sqrt{(\Delta x)^2 + (\Delta y)^2} = \sqrt{(3)^2 + (-4)^2} \\ &= \sqrt{9 + 16} \\ &= \sqrt{25} = 5 \end{aligned}$$

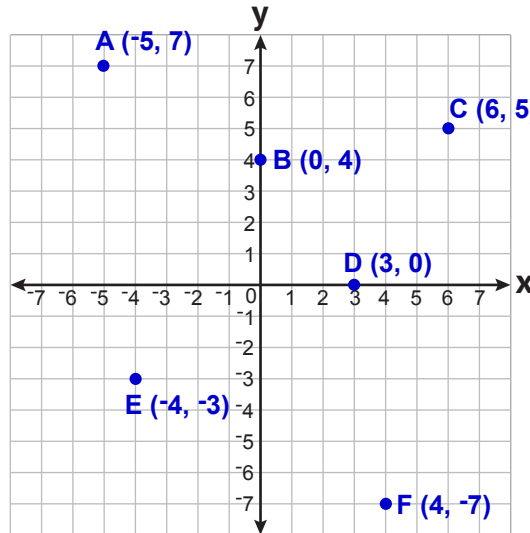
3  $\Delta x = 8$  ,  $\Delta y = -3$

4  $\Delta x = -4$  ,  $\Delta y = 2$

## Calculating Slope & Distance - Set 1

SAD 3

**Instructions:** Refer to the graph below when answering the following questions.

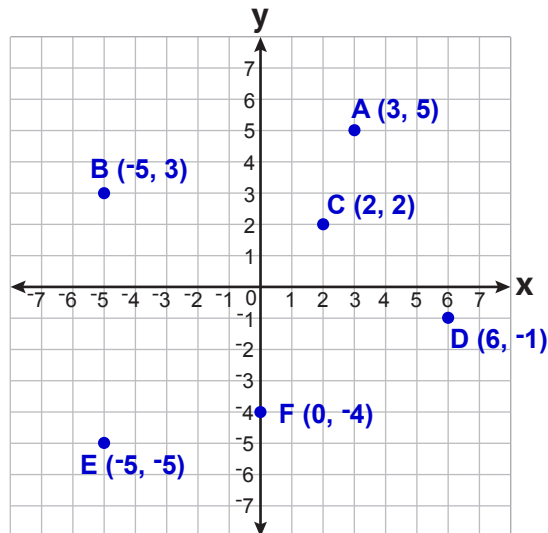


- 1 Find the distance between points E and C, and the slope of the line they form.
- 2 Find the distance between points B and D, and the slope of the line they form.
- 3 Find the distance between points D and F, and the slope of the line they form.
- 4 Find the distance between points A and B, and the slope of the line they form.

## Calculating Slope & Distance - Set 2

SAD 4

**Instructions:** Refer to the graph below when answering the following questions.



- 1 Find the distance between points B and A, and the slope of the line they form.
- 2 Find the distance between points B and F, and the slope of the line they form.
- 3 Find the distance between points E and C, and the slope of the line they form.
- 4 Find the distance between points E and D, and the slope of the line they form.