Name: Date:

Point Slope Form Given Two Points

Write an equation of the line in point-slope form: $y - y_1 = m(x - x_1)$.

Find the slope using: $m = \frac{y_2 - y_1}{x_2 - x_1}$ **. Use either point to write the equation in point-slope form.**

1. $(2, 3)$ and $(6, 11)$

2. $(-1, 5)$ and $(3, -7)$

3. $(4, -2)$ and $(0, 6)$

4. $(7, 1)$ and $(9, 5)$

5. $(-5, -4)$ and $(1, 2)$

6. $(8, -3)$ and $(2, -6)$

7. $(-6, 2)$ and $(-2, -4)$

8. $(10, 0)$ and $(4, 9)$

9. $(-2, 8)$ and $(6, 4)$

10. $(1, -9)$ and $(5, 3)$

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1. $(2, 3)$ and $(6, 11)$

$m = \frac{11-3}{6-2} = 2$
Option 1: $y - 3 = 2(x - 2)$
Option 2: $y - 11 = 2(x - 6)$

2. $(-1, 5)$ and $(3, -7)$

$m = \frac{-7-5}{3-(-1)} = -3$
Option 1: $y - 5 = -3(x + 1)$
Option 2: $y + 7 = -3(x - 3)$

3. $(4, -2)$ and $(0, 6)$

Option 1: $y + 2 = -2(x - 4)$
Option 2: $y - 6 = -2(x - 0)$

4. $(7, 1)$ and $(9, 5)$

Option 1: $y - 1 = 2(x - 7)$
Option 2: $y - 5 = 2(x - 9)$

5. $(-5, -4)$ and $(1, 2)$

Option 1: $y + 4 = 1(x + 5)$
Option 2: $y - 2 = 1(x - 1)$

6. $(8, -3)$ and $(2, -6)$

Option 1: $y + 3 = \frac{1}{2}(x - 8)$
Option 2: $y + 6 = \frac{1}{2}(x - 2)$

7. $(-6, 2)$ and $(-2, -4)$

Option 1: $y - 2 = -\frac{3}{2}(x + 6)$
Option 2: $y + 4 = -\frac{3}{2}(x + 2)$

8. $(10, 0)$ and $(4, 9)$

Option 1: $y - 0 = -\frac{3}{2}(x - 10)$
Option 2: $y - 9 = -\frac{3}{2}(x - 4)$

9. $(-2, 8)$ and $(6, 4)$

Option 1: $y - 8 = -\frac{1}{2}(x + 2)$
Option 2: $y - 4 = -\frac{1}{2}(x - 6)$

10. $(1, -9)$ and $(5, 3)$

Option 1: $y + 9 = 3(x - 1)$
Option 2: $y - 3 = 3(x - 5)$