

Warm Up:

Find the greatest common factor of each set of numbers.

1. 15, 21, 70
2. 24, 60, 72
3. 18, 30, 54
4. 16, 24, 28

Speak Like A Mathematician

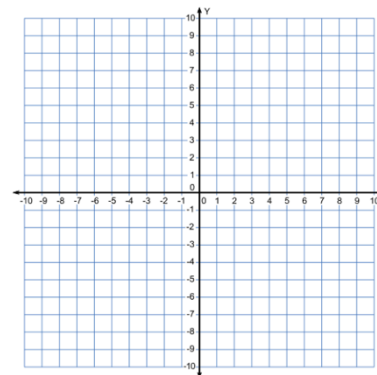
parallel lines: lines in the same _____ that have the _____ slope.

perpendicular lines: lines in the same _____ that have _____ slopes.

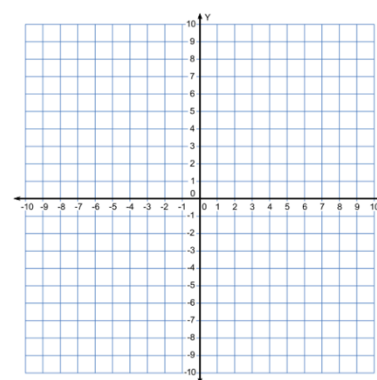
Key Concept: Creating Linear Equations in Point-Slope Form

Example 1: Eq. in Point-Slope Form Given a Slope and a Point

- a) Write an equation in point-slope form for the line that passes through $(-2, 7)$ with a slope of $-\frac{3}{2}$. Then graph the line.



- b) Write an equation in point-slope form for the line that passes through $(4, -6)$ with a slope of $\frac{1}{2}$. Then graph the line.

**Example 2: Equation in Point-Slope Form Given Two Points**

Write an equation of the line that passes through the given pair of points.

- a) $(-4, 9)$ and $(1, 5)$

- b) $(2, -7)$ and $(6, -3)$

- c) $(3, 8)$ and $(6, 5)$

- d) $(2, -1)$ and $(5, -7)$

Example 3: Change to Slope-Intercept Form

a. Write $y + 4 = -2(x - 6)$ in slope-intercept form.

b. Write $y - 7 = -5(x + 4)$ in slope-intercept form.

Example 4: Apply Point-Slope Form

a) Nadia's book club is ordering new novels. She knows that the total cost of 5 books is \$61.25, and 15 books cost \$159.75. Write an equation in point-slope form to represent the total cost y of ordering x books.

b) Use the equation you wrote above to find the cost of purchasing 12 books.