

- Slope Intercept Form of a Line

$$y = mx + b$$

Point-Slope Form of a Line

$$y - y_1 = m(x - x_1)$$

REMEMBER!!! m is slope and $(0, b)$ is y-intercept also (x_1, y_1) is a point on the lineALSO: $1x = x$ thus the slope is 1 AND these are equivalent $-\frac{a}{b} = \frac{-a}{b} = \frac{a}{-b}$

Domain or the independent variable

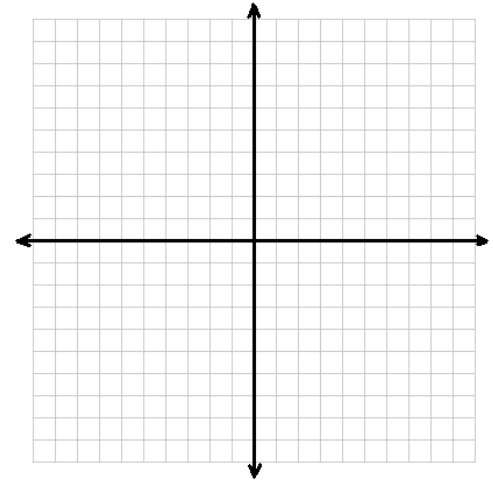
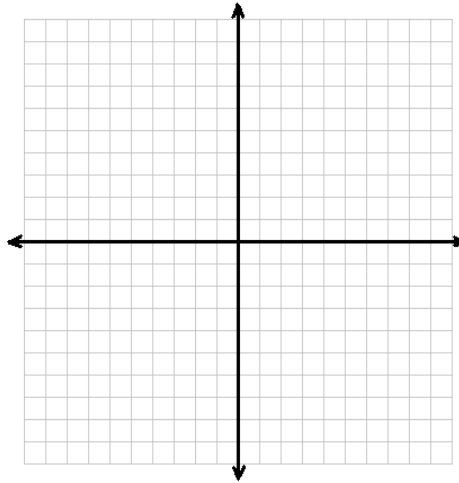
Range or the dependent variable

Set builder notation

Interval Notation

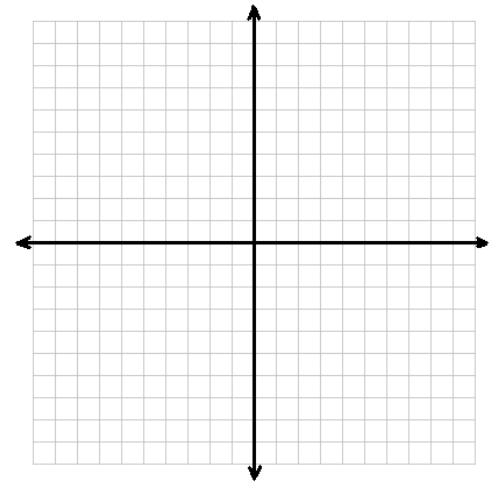
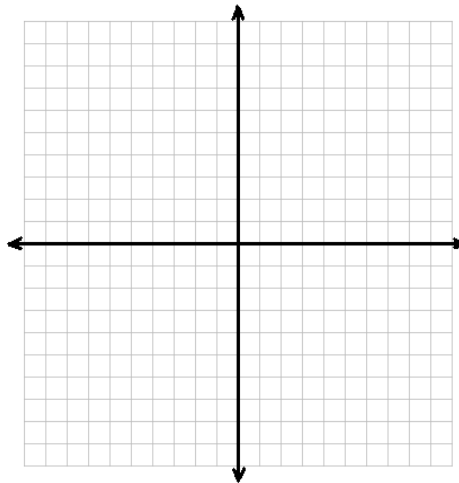
$$f(x) = 2x + 3$$

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



$$5x + 4y = 12$$

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

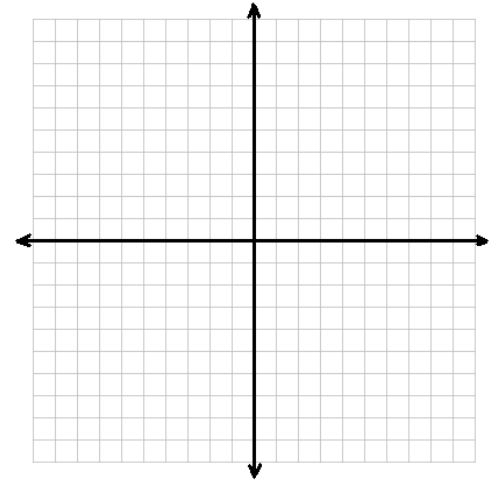
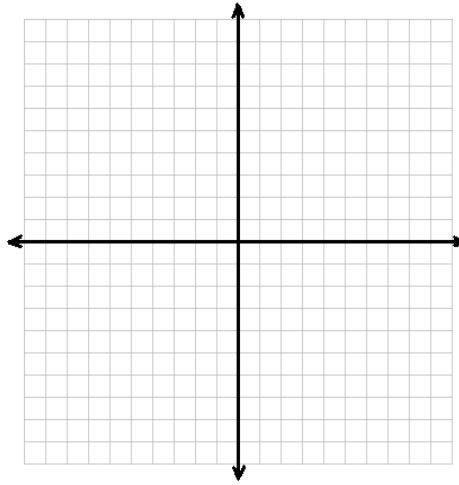


horizontal lines

vertical lines

$$4y = 12$$

$$6x + 12 = 0$$



$$(-1, 6) \quad m = \frac{5}{2}$$

(3,-2) and (1,7)

(3,-2) and (3,7)

(-4,2) and (4,2)

- Parallel: Lines that have the same slope
- Perpendicular: Lines \perp that have negative reciprocals for slopes

$$y + 5 = 6(x - 8)$$

$$y - 2 = 3(x + 7)$$

$$y + 5 = 6(x - 8)$$

$$y = 6x - 10$$

$$y = -\frac{1}{3}x - 10$$

$$y = -\frac{1}{3}x - 10$$