

Slope-intercept form

$$y = mx + b$$

1. $m = 2$ (2,8)

$$8 = 2(2) + b$$

$$8 = 4 + b$$

$$b = 4$$

$$y = 2x + 4$$

2. $m = 3$ (6,12)

$$12 = 3(6) + b$$

$$12 = 18 + b$$

$$b = -6$$

$$y = 3x - 6$$

3. $m = \frac{1}{2}$ (8,16)

$$16 = \frac{1}{2}(8) + b$$

$$16 = 4 + b$$

$$b = 12$$

$$y = \frac{1}{2}x + 12$$

v.

Point-slope form

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

1. $m = 2$ (2,8)

$$(y - 8) = 2(x - 2)$$

$$y - 8 = 2x - 4$$

$$y = 2x + 4$$



2. $m = 3$ (6,12)

$$(y - 12) = 3(x - 6)$$

3. $m = \frac{1}{2}$ (8,16)

$$(y - 16) = \frac{1}{2}(x - 8)$$

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v.

Point-slope form

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

4. $m = 0$ $(-9, -1)$

$$-1 = 0(-9) + b$$

$$-1 = 0 + b$$

$$b = -1$$

$$\boxed{y = -1}$$

5. $m = \text{undefined}$ $(25, -2)$

$$\boxed{x = 25}$$

4. $m = 0$ $(-9, -1)$

$$\boxed{y + 1 = 0(x + 9)}$$

$$y = -1$$

5. $m = \text{undefined}$ $(25, -2)$

$$\boxed{x = 25}$$

$$Ax + By = C$$

Choose one of the equations from the front side of this practice to write in standard form.

#3 $y = \frac{1}{2}x + 12$

$$2y = x + 24$$

$$-x + 2y = 24$$

$$\boxed{x - 2y = -24}$$