

# Algebra I

## 8-5

### Equations of Lines

Write an equation in slope / intercept form of each line.

17)  $(0, 7)$  or  $(1, 9)$

$$y = mx + b$$

First, find  $m$  using the slope formula.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 7}{1 - 0} = \frac{2}{1} = 2$$

$$y = 2x + b$$

$$\begin{array}{l} 7 = 2(0) + b \\ 7 = b \end{array}$$

$$y = 2x + 7$$

$(0, 7)$  Then do temp work. You can pick either point to use for  $x$  and  $y$ . In this case, we chose  $(0, 7)$  because the numbers are easier to work with.

Write an equation in slope / intercept form of each line.

23) (3, -1) (6, 7)

<sup>pick</sup>  
 $y = mx + b$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{7 - (-1)}{6 - 3} = \frac{8}{3}$$

$$y = \frac{8}{3}x + b$$

temp

$$\begin{aligned} 7 &= \frac{8}{3}(6) + b \\ 7 &= 16 + b \\ 7 - 16 &= 16 - 16 + b \\ -9 &= b \end{aligned}$$

$$y = \frac{8}{3}x - 9$$

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18 - 34 even