2.8.16

$$y = 2x + 6$$

m

$$y = mx + b$$

5) The graph of a line in the xy-plane has slope 2 and contains the point (1, 8). The graph of a second line passes through the point (1, 2) and (2,1) If the two lines intersect at the point (a, b), what is the value of $a + b$?

x, y

x_1, y_1

x_2, y_2

$$m = \frac{1 - 2}{2 - 1} = (-1)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$y = -1x + 3$$

A) 4   B) 3   C) -1   D) -4

$$-x + 3 = 2x + 6$$
$$+x \qquad\qquad +x$$

$$3 = 3x + 6$$
$$-6 \qquad\qquad -6$$

$$\frac{-3}{3} = \frac{3x}{3}$$

$$-1 = x$$

$$4 = y$$

$$4 + (-1) = 3$$