

1. Write the equation of the line that passes through the points  $(-6, 16)$  and  $(-2, -14)$

$$\frac{-14-16}{-2+6} = \frac{-30}{4} = -\frac{15}{2}$$

$$y+14 = -\frac{15}{2}(x+2)$$

$$y+14 = -\frac{15}{2}x - 15$$

$$y = -\frac{15}{2}x - 29$$

2. Find the average rate of change for the function  $g(x) = -3x + 12$  over the interval  $-8 \leq x \leq 4$

$$g(8) = -3(-8) + 12 = 36 \quad (-8, 36)$$

$$g(4) = -3(4) + 12 = 0 \quad (4, 0)$$

$$m = \frac{0-36}{4+8} = \frac{-36}{12} = -3$$

3. At Brenda's Bikes, you can rent a bike for \$20 plus an additional \$2.50 per hour.

a. Write an equation in slope-intercept form to represent the situation.

b. What would it cost to rent for 5 hours?

$$y = 2.50x + 20$$

$$y = 2.50(5) + 20$$

$$= 12.50 + 20$$

$$= \$32.50$$

# **Unit 2 Study Guide**