Math-1150-es35

2011 November 10

- **1** Suppose that f is a linear function such that f(0) = -2 and f(1) = -5.
- a What is the slope of the graph of this function? (Show what numerical calculation you make.) Since (0, -2) and (1, -5) are on the graph, the slope is

$$\frac{(-5) - (-2)}{(1) - (0)} = \frac{-3}{1} = -3.$$

b Extra credit: Write down a formula for this function.

Quiz 10

Since the graph's slope is -3 and its vertical intercet pis (0, -2), the function is

$$f(x) = -3x - 2.$$

2 The cost (in dollars) of renting a moving truck for a day is given as a function of the distance driven (in miles) by

$$C(x) = 0.25x + 35.$$

a Suppose that you want the cost to be no more than \$100. What is the maximum distance that you can drive?

The cost must be less than or equal to \$100; that is, $C(x) \leq 100$:

$$0.25x + 35 \le 100;$$

 $0.25x \le 65;$
 $x \le 260.$

Therefore, the maximum distance that I can drive is 260 miles.

b Extra credit: How might one describe (in ordinary English) the cost of renting the truck for the day?
It costs \$35 plus 25¢ per mile.