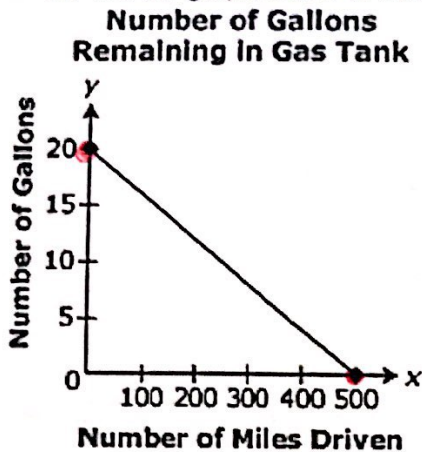


Day 3 – Characteristics of Linear Functions (Real World) – Notes

Now that you have learned all the characteristics that apply to linear functions, we are going to focus on a few characteristics that have very real world applications to them – slope, domain & range, and intercepts.

1. A car owner recorded the number of gallons of gas remaining in the car's gas tank after driving a number of miles. Use the graph below to answer the following questions.



a. What does x-intercept represent on the graph?

$(500, 0)$
miles gallons

After driving for 500 miles, there is 0 gallons of gas remaining.

b. What does the y-intercept represent on the graph?

$(0, 20)$
miles gallons

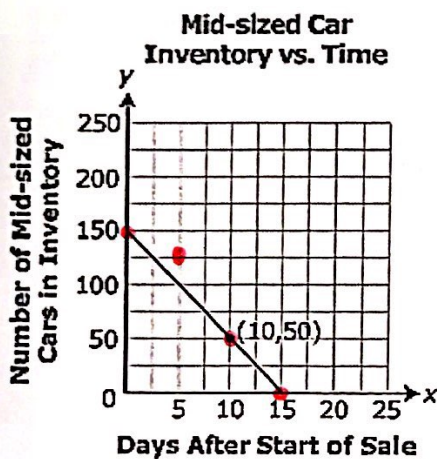
Before you started driving, there was 20 gallons of gas.

c. What does the point $(200, 12)$ represent on the graph?

miles gallons

After driving for 200 miles, there are 12 gallons of gas remaining.

2. The graph below shows the relationship between the number of mid-sized cars in a car dealer's inventory and the number of days after the start of a sale.



a. What does x-intercept represent on the graph?

days cars
 $(15, 0)$

At 15 days, there are 0 cars remaining for the sale

b. What does the y-intercept represent on the graph?

days cars
 $(0, 150)$

At the beginning of the sale, there were 150 cars to be sold.

c. What does the point $(10, 50)$ represent on the graph?

Is the point a solution of the graph?

At 10 days, there were 50 cars remaining

Is a Solution!!

d. What does the point $(5, 125)$ represent on the graph?

Is the point a solution of the graph?

At 5 days, there were 125 cars remaining

Not a Solution!! (not on line)

e. Find the slope and interpret what it means in context of the problem.

$$\frac{-150 \text{ cars}}{15 \text{ days}} = \frac{-10 \text{ cars}}{1 \text{ day}}$$

They sold 10 cars each day.

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