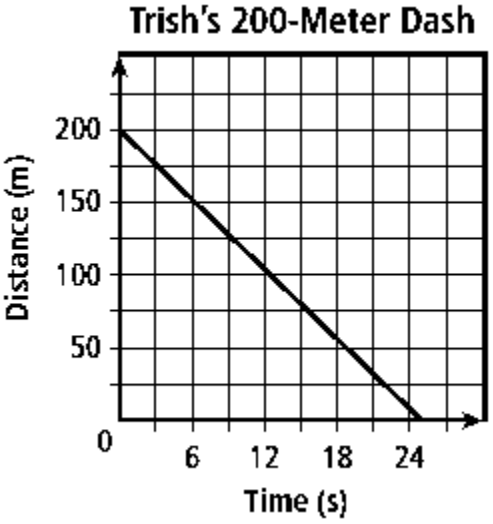
Day 9 – Characteristics of Linear Functions in a Real World Context Name:_____

Practice Assignment Date:_____ Block:_____

1. The Sandia Peak Tramway in in Albuquerque, New Mexico, travels a distance of about 4500 meters to the top of Sandia Peak. Its speed is 300 meters per minute. The function f(x) = 4500 – 300x gives the tram's distance in meters from the top of the peak after x minutes. Find and interpret the intercepts from the table below.

x	0	2	5	10	15
$f(x) = 4500 - 300x$	4500	3900	3000	1500	0

2. Trish can run the 200 meter dash in 25 seconds. The function f(x) = 200 – 8x gives the distance remaining to run after x seconds.

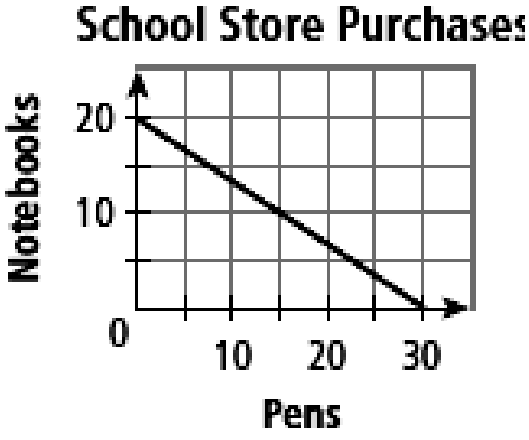


a. What is the domain & range of the function?

b. What is the slope of the function? Explain what the slope means in terms of the problem scenario.

c. What are the x and y intercepts? Explain what they mean in terms of the problem scenario?

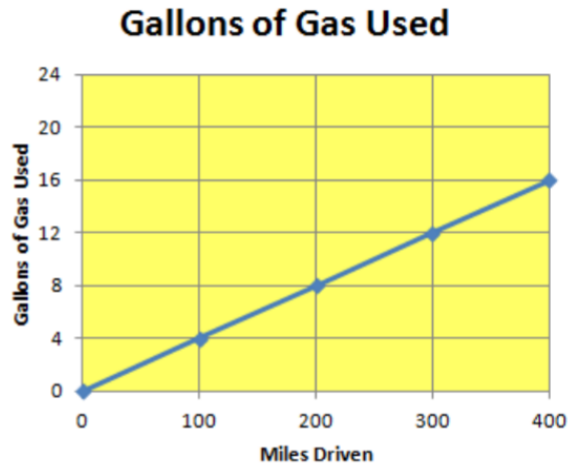
3. The school store sells pens for $2.00 and notebooks for $3.00. The equation 2x + 3y = 60 describes the number of pens x and notebooks y that you can buy for $60.



a. What is the domain and range of the function?

b. What are the x and y intercepts? Explain what they mean in terms of the problem scenario?

4.



a. What is the domain in context of the problem?

b. What is the range in context of the problem?

c. How many miles per gallon does this car get?

5. A fishing lake was stocked with 300 bass. Each year, the population decreases by 25 bass. The population of bass in the lake after x years is represented by the function f(x) = 300 – 25x. Calculate the x and y intercepts and then interpret them in terms of the problem scenario.

a. What are the x and y intercepts? Explain what they mean in terms of the problem scenario.

b. What is the domain of the function?

c. What is the range of the function?

d. What is the slope of the function? Explain what the slope means in terms of the problem scenario.

6. Emily wants to purchase songs that are $2 apiece on iTunes.

a. Create a function rule to describe this scenario.

b. What would be the independent and dependent quantities?

c. If Emily has $40 to spend, what would be the domain and range of the function?