Unit 5 Lesson 3 – Proportionality

1.) A food bank distributes cans of vegetables every Saturday. They keep track of the cans in the following manner in the table. A linear function can be used to represent the data. The information in the table shows the function of time in weeks to the number of cans of vegetables distributed by the food bank.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of weeks  () |  |  |  |  |
| Number of cans of vegetables distributed  () |  |  |  |  |

a.) Describe the function in terms of cans distributed and time.

b.) Write a linear equation that represents the number of cans, y, distributed in x weeks.

c.) Assume that the food bank wants to distribute 20,000 cans of vegetables. How long will it take for them to meet that goal?

2.) A linear function has the table of values below. The information in the table shows the function of time in hours to the distance an airplane travels in miles. Assume constant speed.

|  |  |  |  |
| --- | --- | --- | --- |
| Number of hours traveled  () |  |  |  |
| Distance in miles  () |  |  |  |

a.) Describe the function in terms of distance and time.

b.) Write the linear function that describes the distance traveled in miles, , in hours.

c.) Assume that the airplane is making a trip from New York to Los Angeles, which is approximately miles. How long will it take the airplane to get to Los Angeles?

d.) The airplane flies for hours. How many miles will it be able to travel in that time interval?

3.) A linear function has the table of values below. The information in the table shows the function of time in hours to the distance a car travels in miles.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of hours traveled  () |  |  |  |  |
| Distance in miles  () |  |  |  |  |

a.) Describe the function in terms of distance and time.

b.) Write the linear function that describes the distance traveled in miles, , in hours.

c.) Assume that the person driving the car is going on a road trip that is miles from the starting point. How long will it take the person to get to the destination?

4.) A linear function has the table of values below. The information in the table shows the volume of water that flows from a hose in gallons as a function of time in minutes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Time in minutes  () |  |  |  |  |
| Total volume of water in gallons  () |  |  |  |  |

a.) Describe the function in terms of volume and time.

b.) Write the rule that represents the linear function that describes the volume of water in gallons, , in minutes.

c.) How many gallons of water flow from the hose in minutes?