

Chapter 8 Lesson 4

Multiple Representations of Functions

Functions: can be represented using words, equations, tables and graphs.

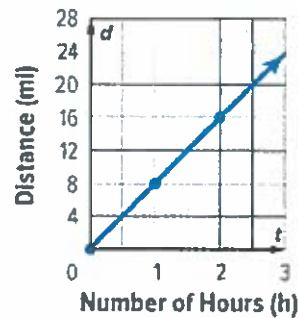
Words A runner's distance in a marathon is equal to 8 miles per hour times the number of hours.

Equation $d = 8t$

Table

| Time (h), t | Distance (mi), d |
|---------------|--------------------|
| 0 | 0 |
| 1 | 8 |
| 2 | 16 |

Graph



EXAMPLES:

An African elephant eats 400 pounds of vegetation each day. (Examples 1-4)

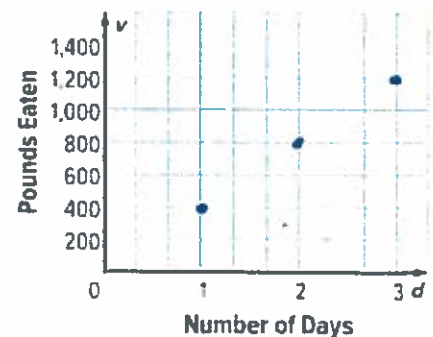
- a. Write an equation to find v , the number of pounds of vegetation an African elephant eats in d days. $v = 400d$

- b. Make a table to show the relationship between the number of pounds v an African elephant eats in days d .

| Number of Days, d | 1 | 2 | 3 |
|---------------------|-----|-----|------|
| Pounds Eaten, v | 400 | 800 | 1200 |

- c. Graph the ordered pairs. Analyze the graph.

The graph is increasing and is in a straight line.



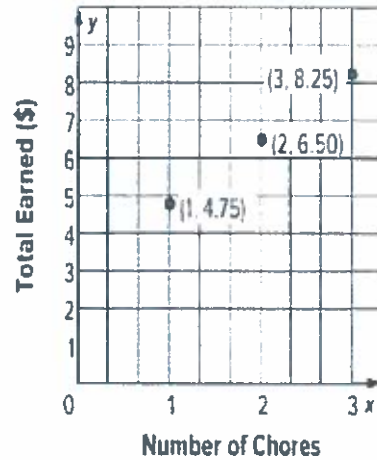
Maurice receives \$3 per week for allowance and earns an additional \$1.75 for each chore he completes.

- a. Write an equation to find t , the total amount earned for c chores in one week. $t = 3 + 1.75c$

- b. Make a function table to show the relationship between the number of chores completed c and the total amount earned t in one week if Maurice completes 1, 2, or 3 chores.

| | | | |
|------------------------|------|------|------|
| Number of Chores, c | 1 | 2 | 3 |
| Total Earned (\$), t | 4.75 | 6.50 | 8.25 |

- c. Graph the ordered pairs.
- d. How much will Maurice earn if he completes 5 chores in one week? \$11.75



- e. Identify the independent and dependent variables.

independent = (c) # chores
dependent = (t) total earned