



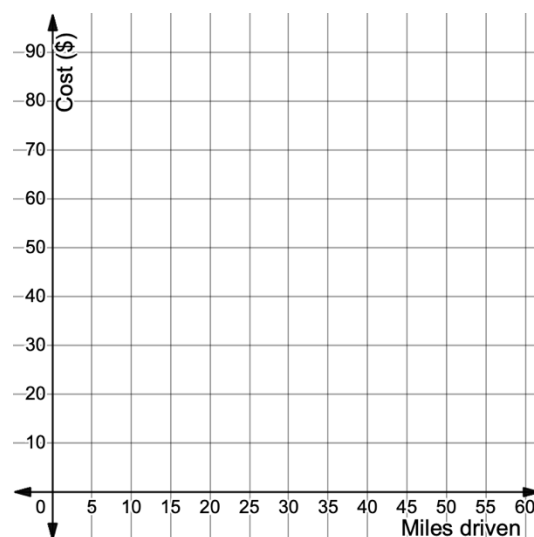
How Much Does It Cost to Rent a U-Haul?

U-Haul is a moving truck rental company with over 20,000 locations in the United States. Customers pick up a truck and drive their belongings to their new home. The cost of renting a U-Haul depends on the number of miles driven in the truck.

1. The table below shows the relationship between the number of miles driven with a U-Haul and the cost of renting the U-Haul.

Miles driven	Cost (in dollars)
10	\$28.89
15	\$33.34
25	\$42.24
40	\$55.59
50	\$64.49

- a. What is the average rate of change in the cost of the rental between $m = 10$ and $m = 25$?
- b. What is the average rate of change in the cost of the rental between $m = 25$ and $m = 50$?
2. Graph the points. What does the graph reveal about the relationship between the number of miles driven and the cost of the rental?
3. Is the rate of change of the cost increasing, decreasing, or staying constant? Explain.
4. U-Haul charges all its customers a minimum base price regardless of how many miles they drive. What is this base price? How do you know?
5. Write an equation for $C(m)$, the cost of renting the U-Haul and driving it for m miles.



Lesson 1.5 – Change in Linear Functions

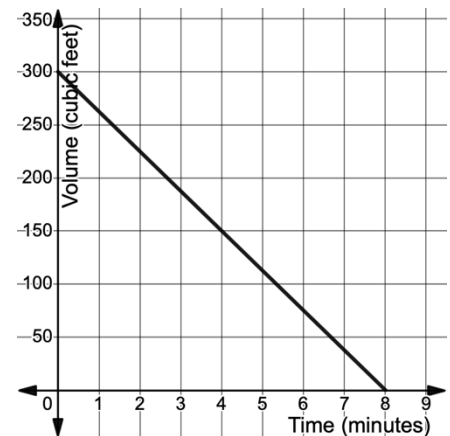
QuickNotes

Check Your Understanding

1. The graph shows a function V which gives the volume of air in an air mattress, $V(t)$, t minutes after it begins to be deflated. $V(t)$ is measured in cubic feet.

a. At what rate is the air mattress being deflated?

b. Find the volume of air remaining in the mattress after 5 minutes.



c. Does the air mattress lose air at a faster rate during the first 5 minutes it is being deflated or during the last 5 minutes it is being deflated? Explain.

2. The function f is a linear function with $f(4) - f(1) = -27$.

a. What is the rate of change of f ?

b. Find $f(11) - f(8)$.

c. Find $\frac{f(20) - f(15)}{5}$.