

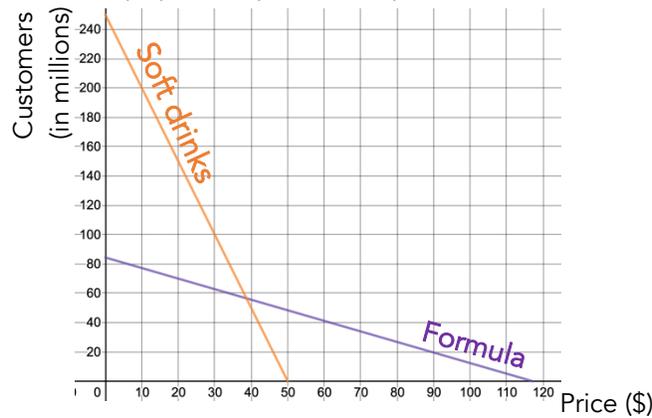


How Does the Food Industry Set Prices?



The food industry is made up of a collective of diverse businesses that together make the majority of the food consumed by the world's population. How do these businesses decide which items to advertise and how much to charge for each product?

1. What types of food or drink do you see advertised often? For what types do you see very little advertising? Why do you think this is?
2. The lines below model the possible relationship between the price and number of customers for two popular supermarket purchases: baby formula and soft drinks.



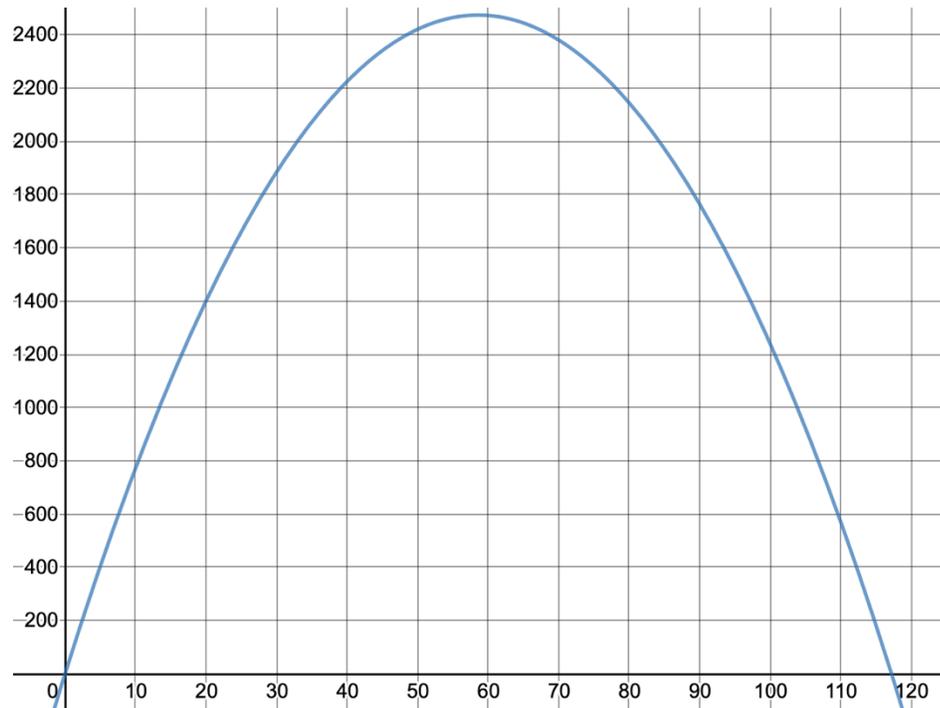
- a) What do you notice about the two graphs? What do you wonder?
- b) Which customer base, formula or soft drinks, is more swayed by an increase in price? How do you know?

3. Look at the data in the table below.
 - a. Calculate the company's **revenue** for each item when the price is \$10 and when the price is \$45.

	Price=\$10		Price=\$45	
	Customers	Revenue	Customers	Revenue
Soft Drinks	200 million		30 million	
Formula	78 million		52 million	

- b. Do you think it's a good idea for food companies to always charge more? Explain.

4. The graph below gives the food company's revenue for baby formula. The x-axis represents the price of the formula. Label the y-axis "revenue (in millions)" and the x-axis "price".



5. Does each equal increase in price change the revenue by a constant amount? Why or why not?
6. a. The new intern at the company suggests selling the formula for \$20. Is this the best price? How do you know?
- b. The second intern suggests selling the formula for \$80. Is this the best price? How do you know?
- c. If the goal is to make the most money, what is the optimal price for the formula? How do you know?
7. At what price(s) will the company make no money on formula? Why?
8. When or why might companies use factors besides revenue to determine their prices?

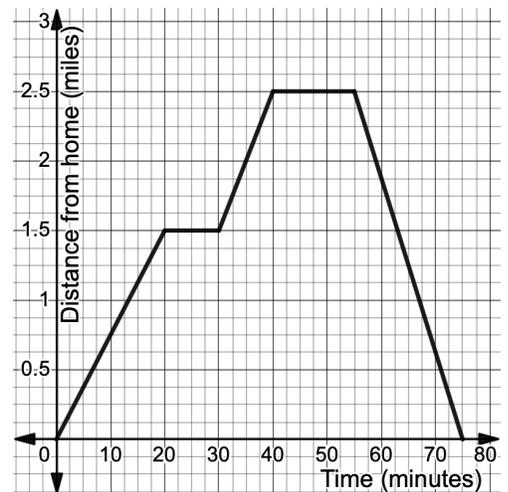
Lesson 1.2 – Interpreting Graphs of Functions

QuickNotes

Check Your Understanding

1. Easton walks from his house to the bank and then to the grocery store before returning home. The graph shows his distance from home, $d(t)$, in miles, t minutes after leaving his home.

- How long does the trip take him total?
- How many minutes is Easton at the grocery store?
How do you know?
- On which time interval(s) is d increasing? What does this mean in the context of this problem?



- At which time(s) is Easton exactly 1 mile from his home?

2. A function f is decreasing for $-5 < x < 0$, increasing for $0 < x < 2$ and constant for $x > 2$. Sketch a possible graph of f .

