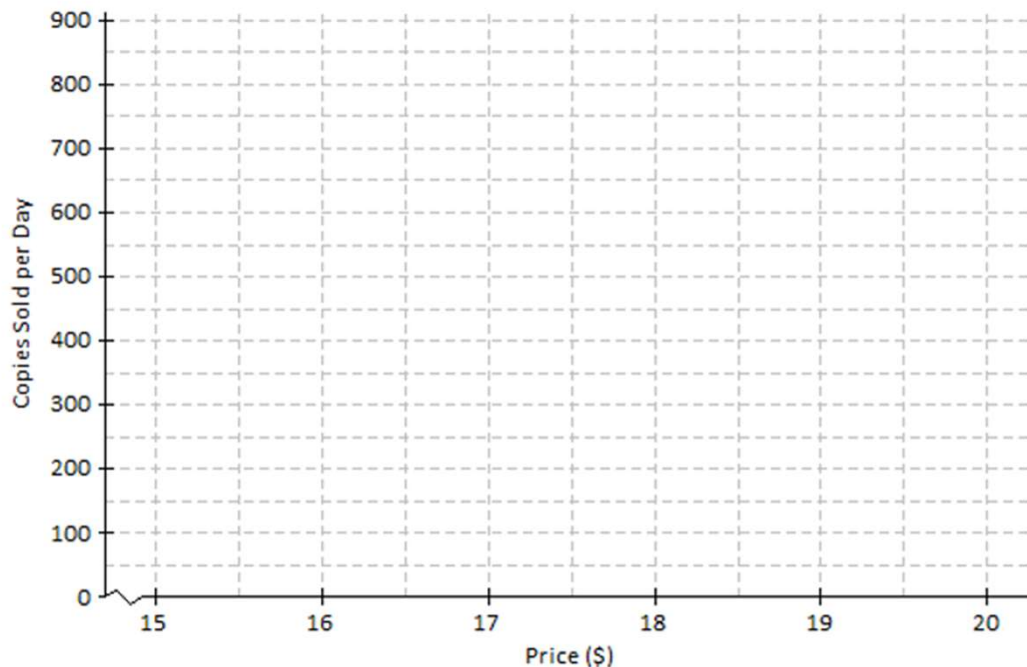


Representations of a Line

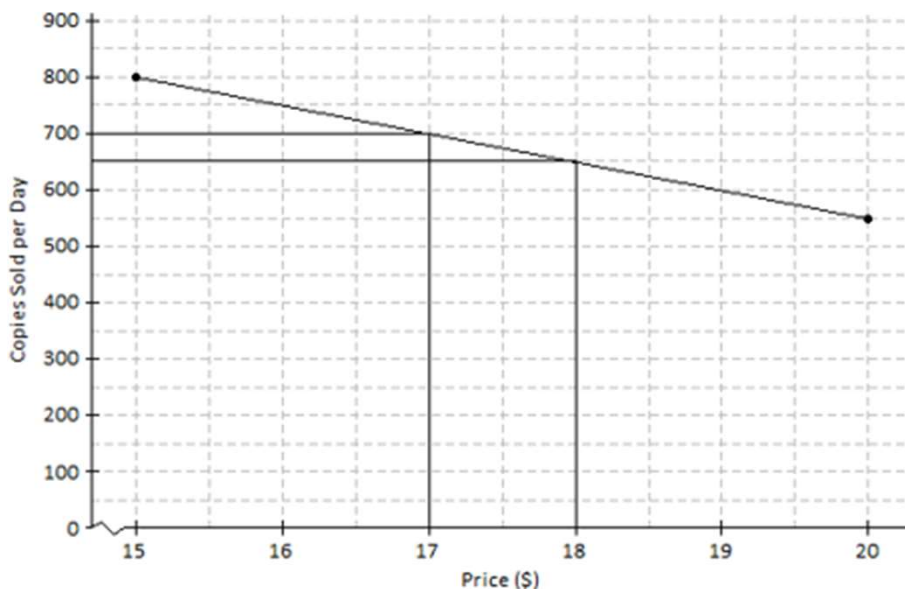
1. An online bookseller has a new book in print. The company estimates that if the book is priced at \$15, then 800 copies of the book will be sold per day, and if the book is priced at \$20, then 550 copies of the book will be sold per day.



- a) Identify the ordered pairs given in the problem. Then, plot both on the graph.
- b) Assume that the relationship between the number of books sold and the price is linear. (In other words, assume that the graph is a straight line.) Draw the line that passes through the two points.
- c) What is the rate of change relating number of copies sold to price?
- d) Based on the graph, if the company prices the book at \$18, about how many copies of the book can they expect to sell per day?
- e) Based on the graph, approximately what price should the company charge in order to sell 700 copies of the book per day?

Representations of a Line

1. An online bookseller has a new book in print. The company estimates that if the book is priced at \$15, then 800 copies of the book will be sold per day, and if the book is priced at \$20, then 550 copies of the book will be sold per day.



a) Identify the ordered pairs given in the problem. Then, plot both on the graph.

The ordered pairs are (15, 800) and (20, 550). See the graph above.

b) Assume that the relationship between the number of books sold and the price is linear. (In other words, assume that the graph is a straight line.) Draw the line that passes through the two points.

See the graph above.

c) What is the rate of change relating number of copies sold to price?

Between the points (15, 800) and (20, 550), the run is 5, and the rise is $-(800 - 550) = -250$. So, the rate of change is $\frac{-250}{5} = -50$.

d) Based on the graph, if the company prices the book at \$18, about how many copies of the book can they expect to sell per day?

650

e) Based on the graph, approximately what price should the company charge in order to sell 700 copies of the book per day?

\$17

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