

# Graphing Interpretations

Relations and functions can be graphed without a scale on either axis by taking into consideration only the shape of the graph.

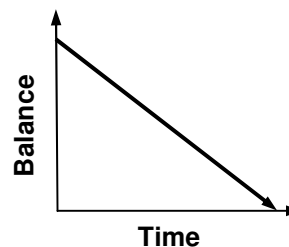
## **Example** Graph Relations

Draw a graph to represent each situation.

- A. MUSIC** Amy received a gift card as a present. She uses the card to download music, where each download is the same price. She plans to download the same number of songs each day, until the balance on the card reaches zero dollars.

Label the  $x$ -axis Time and the  $y$ -axis Balance.

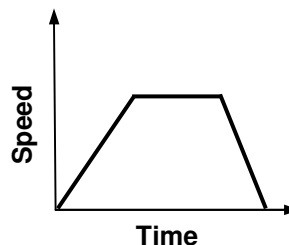
As time increases, the balance on Amy's gift card will continue to decrease at a steady rate, until the balance reaches zero dollars.



- B. DRIVING** A car is driven from one stop sign to another.

Label the  $x$ -axis Time and the  $y$ -axis Speed.

When the car first accelerates, the speed increases as time increases. Once the car reaches a desired speed, the speed remains constant as time increases. Then, once the car reaches the stop sign, the speed decreases to zero.



## Exercises

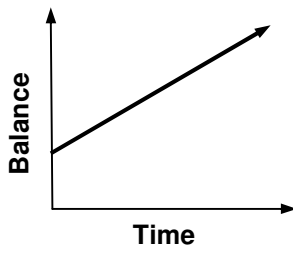
Draw a graph to represent situation.

- MONEY** A savings account starts with an initial balance, and then a deposit of the same amount is entered into the account each month.
- TRAINS** A train is slowing to a stop while approaching a station.
- STOCKS** The price of a stock rapidly increases, begins to decrease slowly, and then rapidly increases again.
- JOBS** An employee earns a certain wage while working a shift.
- CARS** The value of a new car decreases rapidly during the first few years and then continues to decrease to half of its original value by the time it is sold.
- EXERCISE** A runner jogs one mile, rests, and then walks one mile.
- BASEBALL** A rookie baseball card rapidly increases in value after a few years when the player becomes famous, and then continues to steadily increase in value over time.
- METEOROLOGY** The temperature during one day is average in the morning, remains constant, rises to a higher temperature around noon, and then steadily drops in the afternoon and throughout the evening.

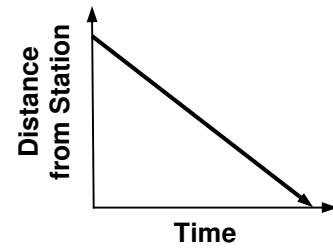
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Answers

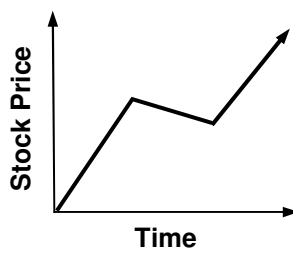
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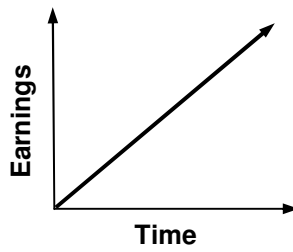
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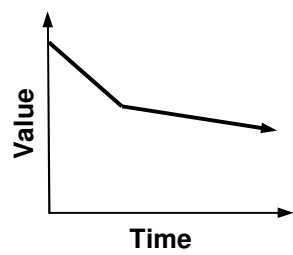
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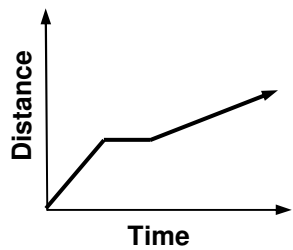
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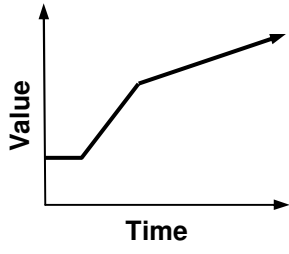
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