

Lesson Summary

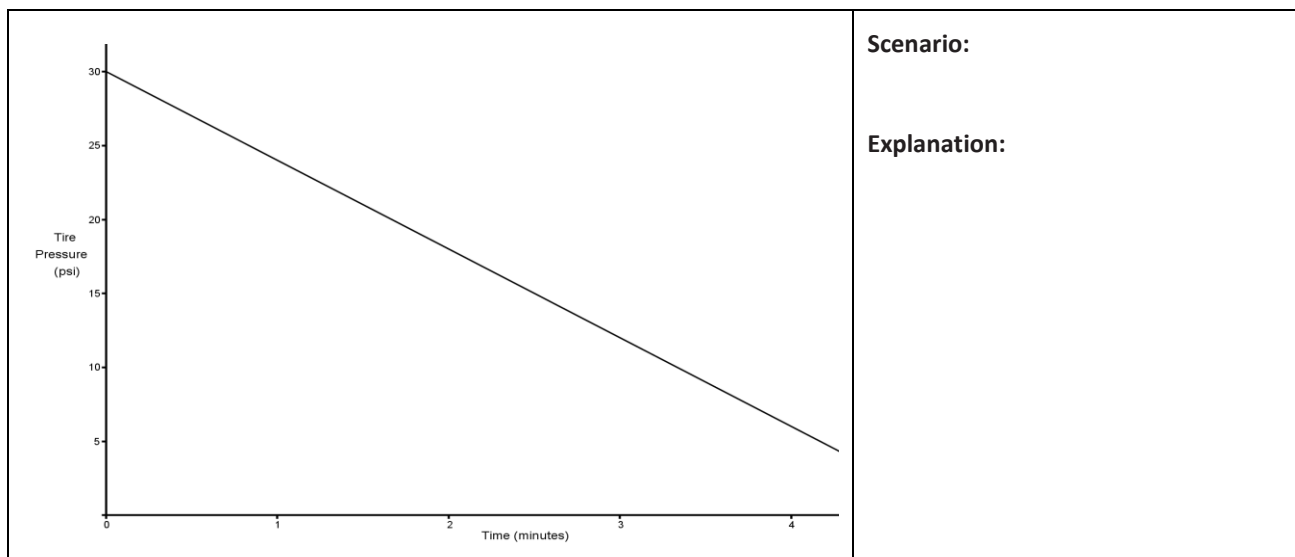
The graph of a function can be used to help describe the relationship between two types of quantities.

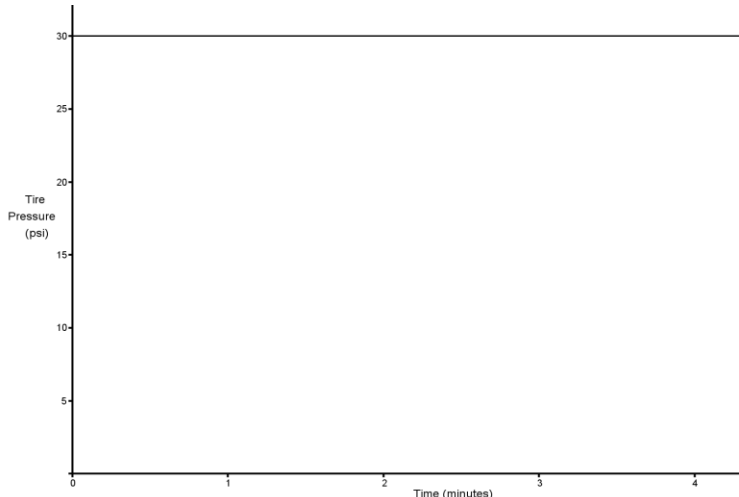
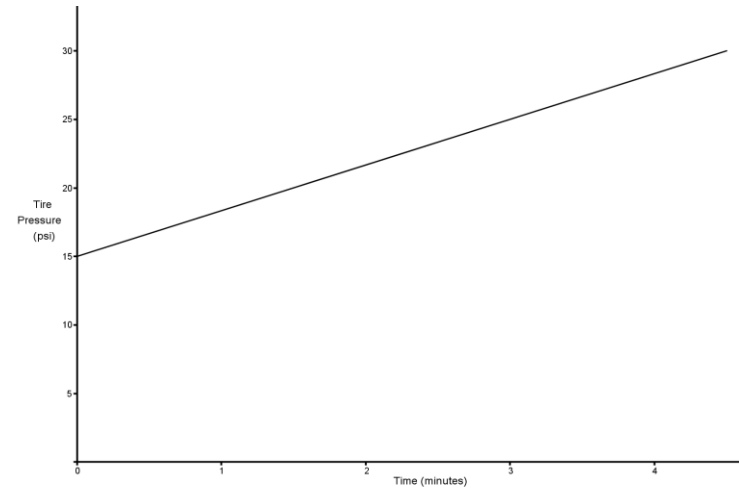
The slope of the line can provide useful information about the functional relationship between the quantities represented by the line:

- A function whose graph has a positive slope is said to be an *increasing function*.
- A function whose graph has a negative slope is said to be a *decreasing function*.
- A function whose graph has a zero slope is said to be a *constant function*.

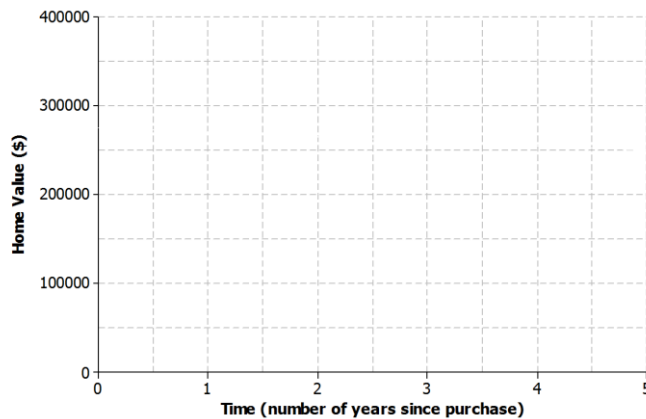
Problem Set

1. Read through each of the scenarios, and choose the graph of the function that best matches the situation. Explain the reason behind each choice.
 - a. The tire pressure on Regina's car remains at 30 psi.
 - b. Carlita inflates her tire at a constant rate for 4 minutes.
 - c. Air is leaking from Courtney's tire at a constant rate.

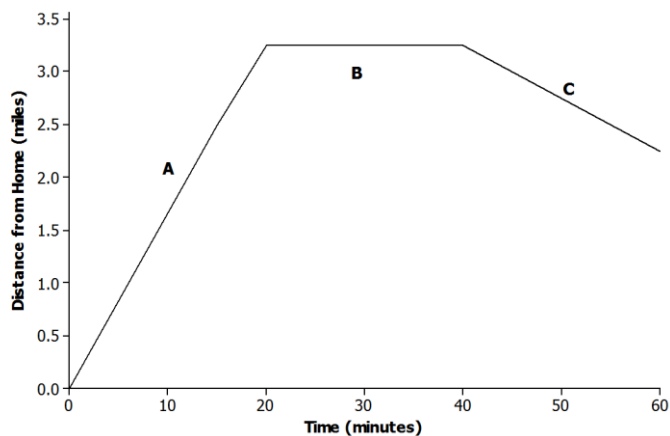


	<p>Scenario:</p> <p>Explanation:</p>
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2. A home was purchased for \$275,000. Due to a recession, the value of the home fell at a constant rate over the next 5 years.
- a. Sketch a graph of a function that models the situation.



- b. Based on your graph, how is the home value changing with respect to time?
3. The graph below displays the first hour of Sam's bike ride.



Match each part of the graph (A, B, and C) to its verbal description. Explain the reasoning behind your choice.

- Sam rides his bike to his friend's house at a constant rate.
- Sam and his friend bike together to an ice cream shop that is between their houses.
- Sam plays at his friend's house.

4. Using the axes below, create a story about the relationship between two quantities.
- Write a story about the relationship between two quantities. Any quantities can be used (e.g., distance and time, money and hours, age and growth). Be creative. Include keywords in your story such as *increase* and *decrease* to describe the relationship.
 - Label each axis with the quantities of your choice, and sketch a graph of the function that models the relationship described in the story.

