

Predicting the Effects of Changing Slope in Problem Situations

Name:

Date:

Vocabulary Review:

In your own words, define each of the following vocabulary terms.

- Slope

- Linear Function

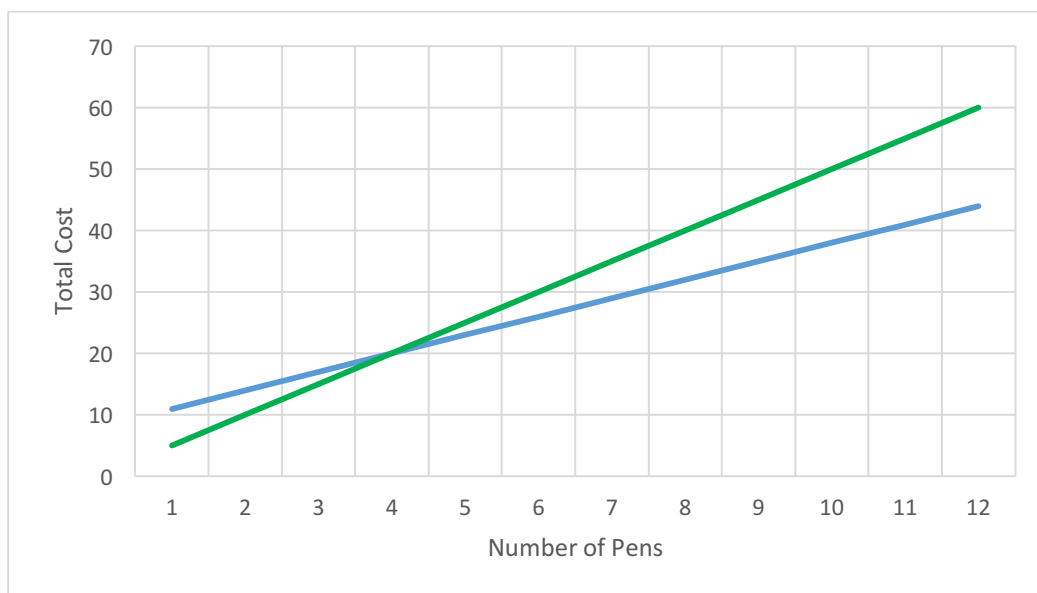
Apply New Learning:

1. You want to buy some pens on the internet. You find a website that charges \$3 for each pen and \$8 for shipping. What is the slope in this situation?

2. What does the slope represent in this situation?

3. Another website charges \$5 for each pen, but has no shipping fees. Will using this website increase or decrease the slope?

The graph below shows the total cost vs. the number of pens purchased for each website.



4. Which website does the green line on the graph represent, website 1 (\$8 shipping fee, \$3 per pen) or website 2 (\$5 per pen)? How do you know?

5. Which website would you order from if you need 3 pens? Which website would you order from if you need 10 pens?

Lizbeth plans to meet her friends at a paintball sports park to play paintball later this afternoon. She finds a table of fees for the park on the internet.

Time (hours, x)	Cost (dollars, y)
0.5	26
1	32
1.5	38
2	44
2.5	50
3	56

6. What is the slope in this situation?

7. What does the slope represent in this situation?

8. If the hourly rate increased by \$5, how would the slope change?

Ahmad's family is taking a ride in a hot-air balloon and they begin their descent to the ground from an altitude of 1800 feet. The balloon descends at a rate of 360 feet each hour. Ahmad uses the equation $y = -360x + 1800$ to describe his family's elevation above the ground, y , as a function of time, x .

9. What is the slope in this situation?

10. What does the slope represent in this situation?

11. How does the slope change if the family begins their descent at 2000 feet?

12. How does the slope change if the hot-air balloon descends at a rate of 400 feet each hour?