Predicting the Effects of Changing *y*-Intercepts in Problem Situations

Name:

Date:

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

- Linear Function

- Slope-Intercept Form

- *y*-Intercept

- Coordinates

Apply New Learning:

1. How can you tell if a situation will increase or decrease the *y*-intercept?

2. You want to buy some pens on the internet. You find a website that charges $8 for the shipping fee and $3 for each pen. What is the *y*-intercept in this situation?

3. What does the *y*-intercept represent in this situation?

4. Another website charges $10 for the shipping fee and $3 for each pen. Will using this website increase or decrease the *y*-intercept?

5. How can you identify the *y*-intercept in a table if one of the ordered pairs in the table is not (0, *y*)?

Lizabeth 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

The table shows the cost to play per hour, but it does not list the cost of admission. Lizabeth has a coupon for half off the cost of admission. Help Lizabeth figure out how much her coupon is worth.

6. What is the *y*-intercept in this situation?

7. What does the *y*-intercept represent in this situation?

8. How much is Lizabeth's coupon worth?

9. How can you determine the changes in the *y*-intercepts from an equation in slope-intercept form $y = mx + b$?

10. 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*. How would the function change if his starting elevation were 200 feet higher?