ACTIVITY 5.6

Developing Concepts

Group Activity for use with Lesson 5.6

Investigating the Standard Form of a Linear Equation

GROUP ACTIVITY
Work in a small group.

MATERIALS
graph paper

QUESTION How can you model possible combinations of two stocks you can buy with a limited amount of money?

EXPLORING THE CONCEPT

Your social studies class is learning about the stock market. Each person in class "invests" up to $80 in either GFE stock, which costs $8 per share, or JIH stock, which costs $20 per share.

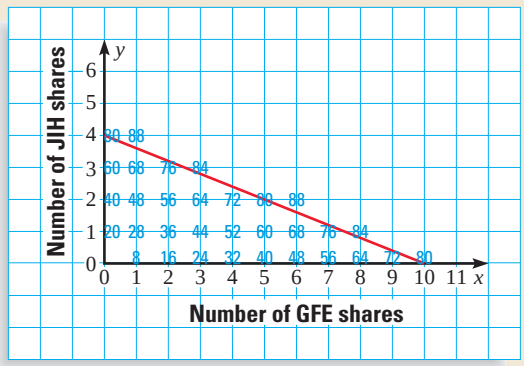
1. Copy and complete the table.

Number of GFE shares	0	1	2	3	4	5
Number of JIH shares	1	1	1	1	1	1
Total cost (dollars)	?	?	?	?	?	?

2. Total costs that represent different combinations of the two stocks are written at points on the graph. Locate the values from your table on the graph.

3. Find the cost of 5 shares of GFE stock and 2 shares of JIH stock. What does the red line on the graph represent?

4. Write an equation of the line in slope-intercept form.



DRAWING CONCLUSIONS

1. Each member of the group should copy the graph and choose a different amount to invest from the following list: $48, $64, $96, and $108.

2. Draw a line that represents the combinations of stocks you can invest in using all of your money. Write an equation of the line in slope-intercept form.

3. Use the verbal model below to write an equation that models the combinations of stocks you can buy using your investment amount as the total cost.

$$\boxed{\text{GFE stock price}} \cdot \boxed{\text{Number of GFE shares}} + \boxed{\text{JIH stock price}} \cdot \boxed{\text{Number of JIH shares}} = \boxed{\text{Total cost}}$$

4. *Writing* You have modeled your investments using a graph and two forms of equations. Compare the results of each person in the group. What do you notice about the lines? about the equations from Exercises 2 and 3?