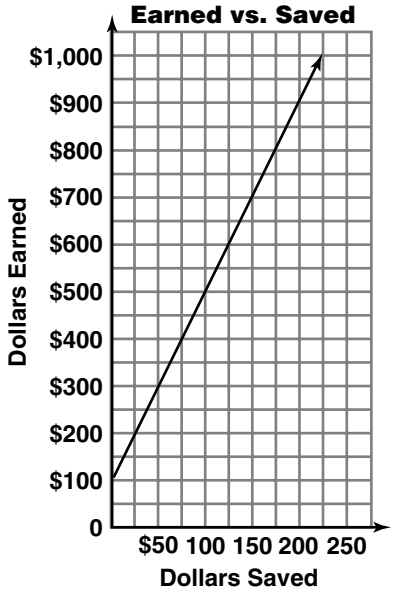
Name _____ Date _____ Class _____

Skill: Using Linear Models

Investigation 2

Thinking With Mathematical Models

For Exercises 1–5, use the graph at the right.



1. What earnings will produce $225 in savings?

2. How much is saved from earnings of $400?

3. What is the slope of the line in the graph?

4. For each increase of $200 in earnings, what is the increase in savings?

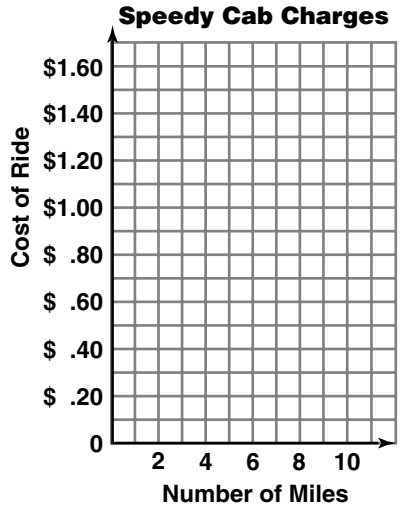
5. Write an equation for the line.

6. A ride in a cab costs $0.40 plus $0.15 per mile.

a. Write and graph an equation for traveling x miles in the cab.

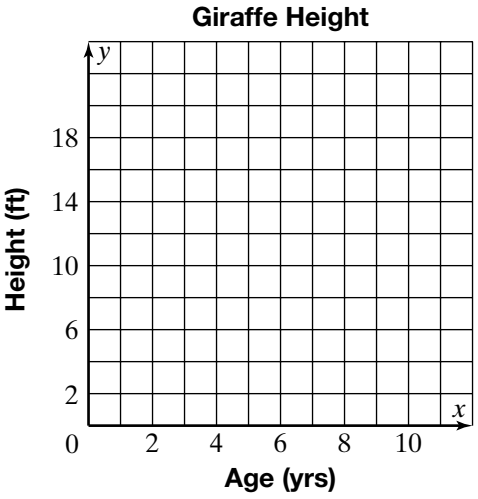
b. The cab charges $0.70 for a ride of how many miles?

c. How much does the cab charge for a trip of 8 miles?



Skill: Using Linear Models *(continued)*

A giraffe was 1 foot tall at birth, 7 feet tall at the age of 4, and $11\frac{1}{2}$ feet tall at the age of 7.



7. Plot the data.

8. Draw a line that models the pattern in the data.

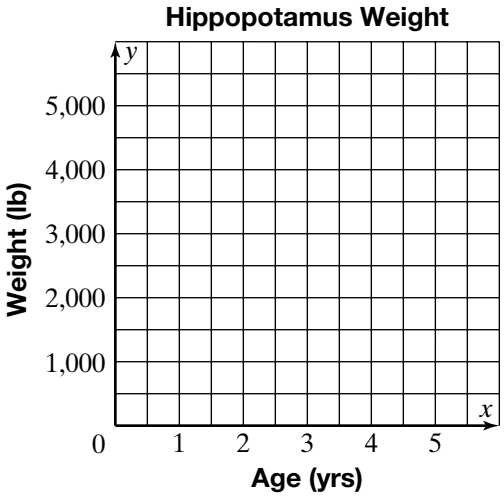
9. Write an equation for your line.

10. Use your equation to find the following information.

a. the giraffe's height at the age of 5

b. the age at which the giraffe was 16 ft tall

A hippopotamus weighed 700 pounds at the age of 1, 1,900 pounds at the age of 3, and 2,500 pounds at the age of 4.



11. Plot the data.

12. Draw a line that models the pattern in the data.

13. Write an equation for your line.

14. Use the equation to predict the following information.

a. the hippo's weight at the age of 8

b. the age at which the hippo weighed 7,900 pounds