Slope-Intercept Form *Applications*

Problems that involve an initial starting value and a constant rate of change can be modeled using a linear equation written in slope-intercept form **($y = mx + b$)**.

Important Parts!	*Rate of change* = _____ *Initial Value* = _____ *Independent Variable* = _____ *Dependent Variable* = _____

1 Manny is having new carpet installed in his home. The flooring company charges $195 for installation, then $3.50 per square foot of carpet. Identify your variables, then write an equation to represent the total cost Manny will pay for the new carpet.	**a)** What is the rate of change?
	b) What is the initial value?
	c) What is the independent variable?
	d) What is the dependent variable?
2 A taxi charges $2.50 per mile in addition to a $2 transportation fee. Identify your variables, then write an equation to represent the total cost to take a taxi cab.	**a)** What is the rate of change?
	b) What is the initial value?
	c) What is the independent variable?
	d) What is the dependent variable?
3 The cost to make a long-distance phone call is 20 cents per minute plus a $1.75 connection fee. Identify your variables, then write an equation to represent the total cost to make a phone call.	**a)** What is the rate of change?
	b) What is the initial value?
	c) What is the independent variable?
	d) What is the dependent variable?
4 A skydiver starts at an altitude of 3,500 feet and begins to descend at a rate of 12 feet per second. Identify your variables, then write an equation to represent the altitude of the skydiver.	**a)** What is the rate of change?
	b) What is the initial value?
	c) What is the independent variable?
	d) What is the dependent variable?

LIVEWORKSHEETS

Directions: Read each problem, write an equation, then solve using your equation.

5. The Peach Festival charges $5 for admission then $1.25 per pound of peaches picked. If Savannah went to the festival and picked 2.4 pounds of peaches, how much did she pay in total at the festival?

6. A blue whale is approximately 3 tons (6,000 pounds) at birth. If it gains approximately 200 pounds each day during its first year, find the weight of a 30-day old blue whale.

7. A catering company charges $95 plus $12.75 per plate of food. If the cost to cater a party was $656, how many people were at the party?

8. While on a hike, Vera reached the peak of a mountain 3,000 feet above sea level. If she climbed down the mountain at a steady rate of five feet per minute, find her location after three hours.

9. The parking garage of a hotel is located 25 feet below ground. If Rob enters the elevator at the parking garage and it rises at a rate of four feet per second, find the height of the elevator after one minute.

10. Tom works in an appliance store. He has a fixed salary of $75 per day, plus 10% commission on all his sales. If he wishes to make $200 in a single day, find the total value of the merchandise he must sell that day.

LIVEWORKSHEETS