Name: _____   Date: _____

Worksheet: Writing Linear Equations for Real Life Problems

Directions: Write a linear equation for each of the following situations. You must define all variables!

1.) In 1996, the enrollment in school was approximately 1400 students. During the next 3 years, the enrollment increased by 30 students per year.

   a.) Write an equation to model the school's enrollment E as a function of t, the number of years since 1996.

   b.) What was the school's enrollment in 1998?

2.) Aquaculture is the farming of fish and other aquatic animals. From 1991 to 2002, world aquaculture increased at a relatively constant rate. In 1994 aquaculture products measured in at about 20.8 million metric tons. In the year 2000 world aquaculture increased to about 35.5 million metric tons. Write an equation that gives world aquaculture (in millions of metric tons) as a function of the number of years since 1991.

3.) Suppose that a certain strain of pea plant requires 14 days to reach a height of 6 inches, and 30 days to reach a height of 16 inches.

a.) Write a linear equation that models the height of the plant after x days. Define your variables.

b.) About how many days would it take a plant of this strain to reach a height of 12 inches?

c.) What should the height of the plant be after 20 days?

4.) You have a total of $12 to buy peaches and blueberries for a fruit salad. Peaches cost $1.50 per pound and blueberries cost $4.00 per pound. *Write* a linear equation that models the different amounts of peaches and blueberries you can buy (in lbs). *Define* your variables! Now *graph* the situation. Label both axes and mark your intervals.