Name: _____ Class: _____

Finding Percent Change with Equations

Question 1: For each problem, find the percent change by creating and solving an equation for x.

(a) From 50 pounds to 35 pounds	(b) From 72 paper clips to 63 paper clips
(c) From 24 songs to 78 songs	(d) From 16 centimeters to 44.2 centimeters

Question 2: Explain why a change from 20 to 40 is a 100% increase, but a change from 40 to 20 is a 50% decrease.

Question 3: The table shows population data for a community.

Year	Population
2000	118,000
2006	138,000

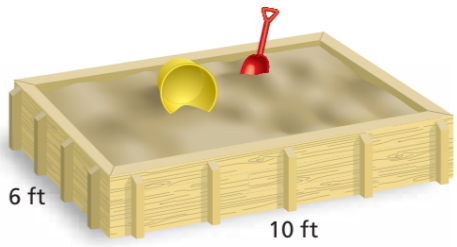
(a) What is the percent change from 2000 to 2006? Use any method.

(b) Use this percent change to predict the population in 2012.

Question 4: Suppose the length and width of the sandbox is doubled.

(a) Find the percent change in the perimeter

(b) Find the percent change in the area.



Question 5

A number increases by 10% and then decreases by 10%. Will the result be *greater than*, *less than*, or *equal to* the original number? Show all work and include an explanation. The answer may surprise you.

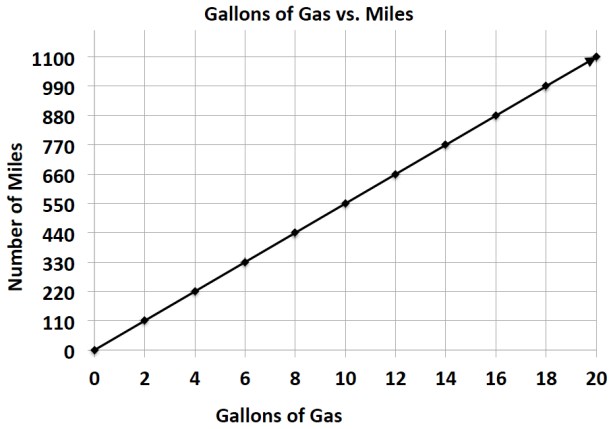
Question 6

Donations to an annual fundraiser are 15% greater this year than last year. Last year, donations were 10% greater than the year before. The amount raised this year is $10,120. How much was raised 2 years ago?

Review Questions

1. The graph below shows how far a motorcycle could get based on gallons of gas.

a) Find the unit rate / constant of proportionality for number of miles traveled on 1 gallon of gas.
b) Create an equation that shows the number of miles, m, traveled based on gallons of gas, g, used.
c) Find the number of miles that the motorcycle could travel on 25 gallons of gas.



2. The graph below shows the number of copies a new copy machine could make based on seconds.

a) Find the constant of proportionality shown by this graph.
b) Create an equation showing the number of copies, c, made based on seconds, s.
c) How many copies could be made in 100 seconds?
d) How long would it take to make 270 copies?
e) A new store "Quick Copies" can make copies based on the equation $c = 1.5s$. Who makes copies faster: the new copy machine or Quick Copies? Explain.