Name _____ Class _____ Date _____

Introduction to Rates and Ratios

Rates and ratios are **REALLY** important in real life. They appear in nutrition, when reading maps, and shopping (things I often think about as a grown-up). Even in the school cafeteria! Listen to Regina, Gretchen, and Cady talk about solving a proportion in this real life problem.

Regina George: 120 calories and 48 calories from fat. What percent is that?
Gretchen: Uh, 48 into 120?
Regina George: I'm only eating foods with less than 30 percent calories from fat.
Cady: It's 40 percent. Well, *48 over 120* equals *X over 100* and then you cross multiply and get the value of X.
Regina George: Whatever, I'm getting cheese fries.

Write out Cady's algorithm (rule for how to solve a problem) here:

$\frac{48}{120} = \frac{\%(x)}{100}$ ...then you have to cross multiply.

So then you have $48 \cdot 100 = 120x$ and in order to solve for X you must divide!

What percent of the calories are from fat? 40%

Now, **YOU** are either Gretchen or Cady (pronounced Catie)! Since you are **such** a good friend, you're going grocery shopping with Regina George. Since you know she wants to fit into her Spring Fling dress and is on that specific diet from above, you want to help her eat the right foods. Read the following list and select four items to see if Regina can eat them or not, according to Cady's calculations.

Can of Regular Soup C → 130 Cf → 15	Can of Low-Fat Soup C → 60 Cf → 10	Granola Bar C → 90 Cf → 13
Bag of Regular Chips C → 220 Cf → 126	Bag of Baked Chips C → 110 Cf → 14	Candy Bar C → 181 Cf → 89

1. What product are you using? Soups

   a. Set up your **proportion**:

      _____ = _____

   b. Cross multiply: _____ = _____

   c. Solve for x: x = _____

   d. Can Regina George eat this at lunch while she's on her diet? _____

2. What product are you using? Chips

   a. Set up your **proportion**:

      _____ = _____

   b. Cross multiply: _____ = _____

   c. Solve for x: x = _____

   d. Can Regina George eat this at lunch while she's on her diet? _____

3. What product are you using? granola bar

   a. Set up your **proportion**:

      _____ = _____

   b. Cross multiply: _____ = _____

   c. Solve for x: x = _____

   d. Can Regina George eat this at lunch while she's on her diet? _____

4. What product are you using? Candy bar

   a. Set up your **proportion**:

      _____ = _____

   b. Cross multiply: _____ = _____

   c. Solve for x: x = _____

   d. Can Regina George eat this at lunch while she's on her diet? _____

Draw **TWO** conclusions from this experiment other than my **TWO**.

1. Some food labels are misleading.
2. I need to use the skills I learned in the algebra chapter in this one, too.
3. _____

   _____
4. _____

   _____

Write down **TWO** ways you might ever think of this again outside of school other than my **TWO**.

1. I'll think of this experiment again whenever I watch Mean Girls.
2. When I'm going grocery shopping, I'll know that I can easily find the percent of calories that are from fat.
3. _____

   _____
4. _____

   _____