Algebra/Geometry Institute Summer 2003
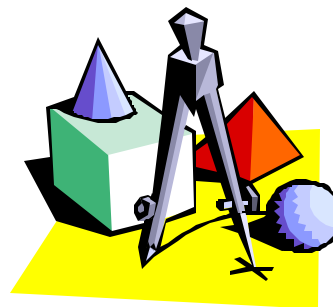
Lesson Plan Three – Percent of Change

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City: Greenwood
Grade Level: 7th Math

1   Teaching objective(s) – To find the percent of increase

2   Instructional Activities – To begin the lesson on finding the percent of increase I am going to tell my class the following true story. When I was a young girl I would go to town on Saturday with my Grandmother and Grandfather. My Grandfather would give me $0.25 to spend while he and my Grandmother did their shopping and took care of other business. I would go to the Saturday afternoon matinee movie, which cost $0.05, buy popcorn and a coke for $0.05 each, and get a double-dip cone of cherry ice cream afterwards at the drugstore for $0.10. Last week I went to the Sunday afternoon movie and had to pay $4.00 to get in to see the show, $1.00 for a coke, $1.50 for popcorn, and an ice cream bar was $1.50 for a total of $8.00. I started thinking about the increase in price of going to the movie and getting refreshments since I was a girl. I wondered what the actual percent of increase was in going to the movie and getting refreshments from when I was a girl to going to the movie and getting refreshments as an adult today. Today's lesson is going to be on finding the percent of increase using the story I just told you and practicing on other problems, too. Before going on in the lesson, I will make sure that the students understand the difference in the vocabulary terms of increase and decrease. I will have the students draw a number line and label the arrow pointing to the right with "increase" above it. I will have them label the arrow pointing to the left "decrease". I will point out that decrease and down both begin with the letter "d". The students need to put the definition of percent of change and the steps we're going to use to find it in their notebooks. The definition of **Percent of Change** is the percent something increases or decreases from its original measure or amount. Finding it requires two steps: (1.) Subtract to find the amount of change. (2.) Use the proportion amount of change = percent of change.
                                                original amount   100

Now we are going to use the amount of increase in going to the movie and getting refreshments then and now. The first step we'll need to do is to find the amount of change by subtracting $8.00 -$0.25. The answer is $7.75... Next write a proportion $\underline{7.75} = \underline{n\ }$ and solve it.

$$\frac{.25}{} \quad \frac{100}{}$$

.25n =7.75 x 100
.25n = 775
$\underline{.25n} = \underline{775}$
.25   .25

n = 3100%   The percent of increase in going to the movie and getting refreshments from when I was a girl to today as an adult is 3100%.   Do several more practice problems with the students such as finding the percent of increase in 2 to 3 (50%) and 4 to 9 (125%) following the same steps we just used. Also, give them another short story such as, "A loaf of bread used to cost $0.75, it now costs $1.95". Find the percent of increase. After doing the practice problems in class, I would use the part on percent of increase from a worksheet such as, "Ups and Downs" page 105 from The Kids' Stuff Book of Math For The Middle Grades by Marjorie Frank, Incentive Publications, Inc., 1998. The next day I would teach about percent of decrease.

3   Materials and Resources – Notebook, pencil, overhead or chalkboard, and overhead pens or chalk. I followed part of the lesson plan from Prentice Hall's Middle Grades Math Course 2, 2001. Worksheet "Ups and Downs" page 105 from The Kids' Stuff Of Math For The Middle Grades by Marjorie Frank, Incentive Publications, Inc., l998.

4   Assessment - I will have the students go home and ask their parents to help them find another example of a percent of increase problem. They will write a short story about their problem and then solve it using the steps we went over today. After I check their work, they will exchange problems with another student in the class and do the work to solve the new problem.