6.4 Ratios and Proportions

Ratio--

Proportion--

Example: In class, there is a 3 to 2 ratio of boys to girls. Write four different ratios.

part to part--

part to whole--

Ex 1. In the last six months, I drove my car for 4460 miles. If I continue driving my car at this same rate, then how many miles will I have driven after 2.75 years (total)?

Ex 2. An ad says "3 movies for $18." At that rate, what is the cost of 5 movies?

Ex 3. In room A, there are 1 blue hat and 2 red hats, in room B, there are 2 blue hats and 4 red hats, in room C, there are 5 blue hats and 10 red hats. If all the hats in rooms B and C are moved to room A, what will be the ratio of blue hats to red hats? Can you generalize this?

Ex 4. In a photograph of a father and daughter, the daughter's height is 2.3 cm and the father's height is 5.8 cm. If the father is actually 188 cm tall, how tall is his daughter?

Ex 5. Al is 5 feet tall and has a shadow that is 18 inches long. At the same time, a tree has a shadow that is 15 feet long. Al sets up and solves the proportion as follows:

$$\frac{5\text{ ft}}{15\text{ ft}} = \frac{18\text{ inches}}{x\text{ inches}}$$

Is he correct? If so, why? If not, how would you help him?