

## Ratios - April 1, 2013

1. Peggy has \$70 and Diane has \$40.
  - (a) What is the ratio of Diane's money to Peggy's money?
  - (b) Peggy's money is what fraction of Diane's money?
  - (c) Diane's money is what fraction of Peggy's money?
  - (d) Diane's money is what fraction of the money they have together?
  - (e) What is the ratio of Diane's money to the money they have together?
2. There are 30 students in a class, 20 are women.
  - (a) What is the ratio of the number of men in class to the number of women?
  - (b) The number of men is what fraction of the number of women?
  - (c) The number of women is what fraction of the total number of students in class?
  - (d) What is the ratio of the number of men to the total number of students in the class?
3. In a class of 32 students, the ratio of men to women is 3 : 5. How many men are there?
4. Ratio of Pete's weight to Carol's weight is 5 : 3. Pete weighs 60 lbs, what does Carole weigh?
5. David and Ella have \$20 each week to distribute as allowance to their three daughters: Sigrid, Sue and Jen, whose ages are 10, 6 and 4, respectively. David and Ella distribute the money in the ratio of the children's ages. How much does Jen receive? What fraction of the total does Jen receive? What if they had a different total to distribute (you make the amount up, make sure you can do it for any amount).
6. In a box of candy the ratio of the number of red candies to the number of yellow candies is 3 : 2. The ratio of the number of yellow candies to the number of green candies is 4 : 5. What is the ratio of the reds to the greens?  
If there are 15 green candies in the box, how many are red? How many total?
7. Ragna set up her household budget so that the ratio of monthly expenditures to monthly savings is 7 : 2. Her monthly income is \$2,700. If her monthly income increases by \$100 and she saves this increase, then what will the ratio of expenditures to savings be?
8. The ratio of Josh's age to his grandfather's is 6 : 31 and his grandfather is 50 years older than Josh. What are their ages? What will the ratio be in 8 years?
9. Rochelle, Denise and Kriste shared a sum of money in the ratio 2 : 3 : 9. If Kristi received \$42 more than Rochelle, how much did Denise receive?
10. The sides of a triangle are in the ratio of 4 : 5 : 6. The perimeter is 60 inches, what is the length of the shortest side?

# Percents

1. The price of a certain item is increased by \$120, which is a 10% increase. What was price after the increase?
2. An item's price is raised by 10% then decreased by 10%. Does it cost more, less or the same?
3. Express each as a percent, fraction and decimal
  - (a) 123 out of 100
  - (b)  $\frac{13}{100}$ ,  $\frac{100}{100}$ ,  $\frac{7}{10}$ ,  $\frac{23}{20}$
  - (c) 0.09, 0.92, 2.134, 62.102
  - (d) 20%, 25%, 120%
4. What percentage of an hour is 15 minutes? 90 minutes?
5. What percentage of a foot is 3 inches? 1 inch?
6. What percentage of 1 cup is 12 ounce of water?
7. Donna has \$2800 in savings and Jenny has \$2100 in savings. Jenny's savings is what percentage of Donna's? Donna's savings is what percentage of Jenny's?
8. Don has \$60 and Andy has 20% more money than Don. How much money does Andy have?
9. There are 200 students in a large lecture. Forty-five percent of these students are women. How many women are in the lecture?
10. A class starts with 20 students. A week later 15% drop the class. How many students are now in the class?
11. After spending 80% of his money, Andy has \$8 left. How much did he start with?
12. Richard paid \$24,000 for a new car. He was told that he paid 20% over list price. What was list price? What percentage of the list price did he pay?
13. In a certain class there are 55% women. There are 24 more women than men. How many students in the class? 24 is what percentage of the students in class?