1. Solve each equation:
   a. \(-2k - 3(4 - 2k) = 2(k - 3) + 2\)
   b. \(-[6x - (4x + 8)] = 9 + (6x + 3)\)
   c. \(\frac{3}{4}x - \frac{1}{3}x = \frac{5}{6}x - 5\)
   d. \(\frac{3x + 2}{7} - \frac{x + 4}{5} = 2\)
   e. \(.006(x + 2) = .007x + .009\)
   f. \(.08x + .12(260 - x) = .48x\)
   g. \(3x - 5(x + 4) + 9 = -11 + 15x\)
   h. \(4(2d + 7) = 2d + 25 + 3(2d + 1)\)

2. Solve each formula for the specified variable:
   a. \(A = LW\) for \(W\)
   b. \(P = 2L + 2W\) for \(L\)
   c. \(C = 2\pi r\) for \(r\)
   d. \(A = \frac{1}{2}bh\) for \(h\)
   e. \(k + DF = dF\) for \(F\)
   f. \(-7x + 8y = 11z\) for \(y\)
   g. \(\frac{2}{3}kT = g\) for \(T\)
   h. \(A + Bc = Dc + F\) for \(c\)

3. What is 40% of 260?

4. 35 is what percent of 400? (round your answer to the nearest whole percent)

Solve each of the following word problems:

Mixing Problems/Percentage:

5. A chemical solution contains 4% salt. How much salt is in 4.5 ml of solution?

6. A pharmacist has 20 L of a 10% drug solution. How many liters of 5% solution must be added to get a mixture that is 8% drug?

7. You want to make a trail mix that costs $12.50. If you have 2 lbs of peanuts that cost $2 per lb and the M&M cost $5.25 per lb. How many lbs of M&M’s should you purchase to satisfy the cost.

Formulas:

8. The perimeter of a triangle is 34 in. The middle side is twice as long as the shortest side. The longest side is 2 in less than three times the shortest side. Find the lengths of the three sides.
9. As of 2006, the lowest temperature ever recorded in South Dakota was -58°F. Find the corresponding Celsius temperature. \( F = \frac{9}{5}C + 32 \)

10. You found an Iphone on sale. The ad said the original price of the Iphone was $199 and they are giving 15% off. How much will the Iphone cost after taxes? (Assuming sales tax is 8.25%)

11. After a 40% discount, the cost of a shirt was $12.95. What was the original price of the shirt?

12. Michelle was paid $162 for a week’s work at her job after 10% was deducted for taxes. How much did she earn before the deductions were made?

Interest Problems:
13. Find the simple interest if $3200 is borrowed at 16.8% for 9 months.

14. When the market started to crash Daroll cashed in his stocks. He took the cash and invested some money at 3% annual simple interest, and $3000 more than that amount at 4%. The total annual interest was $960.

Monetary:
15. What amount of money is found in a coin purse containing 19 dimes and 5 quarters?

16. A bank teller has some 5 dollar bills and some 20 dollar bills the teller has five more of the twenties than the fives. The total amount of money is $700. Find the number of five dollar bills and 20 dollar bills the teller has.

Distance/Rate/Time Problems:
17. In 2007, rain shortened the Indy 500 race to 415 miles. It was won by Dario Franchitti, who averaged 151.77mph. What was his time to the nearest thousandth?

18. Two cars leave from the same location at the same time. One travels north at 60 mph and the other south at 45 mph. In how many hours will they be 420 miles apart?

19. Two cars leave towns 230 km apart at the same time, traveling directly toward one another. One car travels 15 km per hr slower than the other. They pass one another 2 hr later. What were their speeds?
20. An 85 mile trip to the beach took the Thompson family 2 hr. During the second hour, a rainstorm caused them to average 7 mph less than they traveled during the first hour. Find their average rate for the first hour.

21. Solve each inequality. Give the solution set in both interval and graph forms:
   a. \(4y < -16\)
   b. \(-3(k - 3) + 6 > 10 + 4(k - 4)\)
   c. \(-\frac{2}{5}x \leq -10\)
   d. \(-4 < \frac{5}{6}x - 4 \leq 1\)

22. Solve each compound or absolute value inequality. Give your answer in both interval notation and graph form:
   a. \(x - 5 \leq 6\) or \(x + 4 > 15\)
   b. \(3z > -6\) and \(z - 1 < -4\)
   c. \(5b - 14 > 11\) or \(-3b < -12\)
   d. \(|3x + 1| \leq 20\)
   e. \(|8 - 5z| > 20\)
   f. \(|5 - 6x| \leq 20\)
   g. \(|4 - 3x| + 1 \leq 14\)
   h. \(|2x + 7| = |1 - 3x|\)

For more practice problems, do the chapter 2 and chapter 3 review and test at the end of each chapter.