MATH 1030: Homework 1

due August 24, 2012

Problem 1

Come by my office in the LCB Loft before Friday afternoon. Find my desk in the maze of cubicles and sign the sheet of paper so I know you came.

Problem 2

Five red, five green, and five blue marbles are placed in a jar.

a) How many marbles must you remove (without looking) from the jar to be sure that you have at least one of each color?

b) How many marbles must you remove (still without looking) from the jar to be sure that you have two marbles of the same color?

Problem 3

Solve for x in each of the equations below. Be sure to check your answer.

a) $2x + 17 = 9x - 4$

b) $x^2 + 4x - 12 = 0$

c) $|x - 1| + 4 = 9$

Problem 4

Write down an equation which represents each of the following word problems. *Do not* solve the equation. Instead *explain* why the equation represents the problem.

a) The length of a rectangle is 7 inches more than its width. The area of the rectangle is 78 square inches. Find the length and width of the rectangle.

b) A driver stops at the gas station to fill his tank. The number of gallons he puts in is equal to the price per gallon plus 7. It costs him \$78 to fill the tank. How much does the gasoline cost per gallon, and how many gallons does he buy?

c) Kathy has four times as many DVDs as Cate. The difference between the number of DVDs Kathy has and the number that Cate has is 33. How many DVDs do each of them have?