CS-141 Practice Problems: Variables and Arithmetic

The following are tasks that a programmer ought to be able to do without much effort:

1. Create a new Netbeans Java Application project and write a program that prints “Hello World”.

2. In the main method:
   a. Declare a variable of some type (e.g. int, float, double, String, boolean)
   b. Initialize the variable.
   c. Print the value of the variable.
   d. Assign a new value to the variable and print the new value.

3. In the main method
   a. create two integer variables called x1 and x2
   b. Initialize x1 and x2 to values of your choice.
   c. Declare a third variable, x3, whose value is the sum of x1 and x2.
   d. Print out the result. Use good user feedback, that is, don’t just print the value; let the user know what is going on.
   e. Calculate and print the square root of x3.

4. What are legal variable names? What happens if you use a name that is not legal (try it)? What happens if you declare a variable twice?

5. What are good variable names (as opposed to poor but legal names)?

6. Again, let x be declared as an integer. What is the value of x after the following assignments (test your answers by putting them in your code and printing out the result):
   a. x = 2/3;
   b. x = 5/2;
   c. x = 1+8/4;
   d. x = (1+8)/4;
   e. x = 10/7+2;
   f. x = 10/(7+2);
   g. x = 9 % 4;
   h. x = 9 % 15;

7. Suppose y is declared as a floating point number. What is the value of y after the following assignments (test your answers by putting them in your code and printing out the result):
   a. y = 3.0/2;
   b. y = 3/2;
   c. y = 3/2.0;