55 pts

Name: _____

Class Day / Time: _____

Due Date: _____

Lab #8: Arithmetic in C++

What value is stored into the integer variable num after each of the following expressions has been evaluated? **Show each step as the compiler would evaluate it**.
(ROUND EACH FLOAT TO 2 DECIMAL PLACES)

Assume the following declaration:
int num;

1. **num = 8 / 5 + 2**;
   = _____

   = _____

   num (final value stored) = _____

2. **num = 4.0 / 16.0 + 7.35**;
   = _____

   = _____

   num (final value stored) = _____

3. **num = 4 + 8 * 3**;
   = _____

   = _____

   num (final value stored) = _____

4. **num = 3.75 * 2 - 5**;
   = _____

   =_____

   num (final value stored) = _____

For each of the following, indicate whether the expression is valid or invalid. If it is valid evaluate the expression and put the result in the proper format (integer or floating point). Round each floating point number to 2 decimal places.

5. **10.0 / 3.0 + 5 * 2** VALID (Y/N)? _____

   = _____

   = _____

   = _____

   = _____

6. **10 / 4 + 6 / 3** VALID (Y/N)? _____

   = _____

   = _____

   = _____

   = _____

7. **10 % 4 + 6 % 3** VALID (Y/N)? _____

   = _____

   = _____

   = _____

   = _____

8. **(10.0 / 3.0 % 2) / 3** VALID (Y/N)? _____

   = _____

   = _____

   = _____

   = _____

9. **13.25 + (5.0 * (3.0 / 3.5))** VALID (Y/N)? _____

   = _____

   = _____

   = _____

   = _____

10. **-4 * (-5 + 6)** VALID (Y/N)? _____

    = _____

    = _____

    = _____

    = _____

Assignment Statements and Type Coercion

Assignment statements can become a little tricky with mixed-mode arithmetic. When examining assignment statements break the process into two parts

1) evaluate the expression on the right side of the assignment operator (round each float to 2 decimal places).

2) apply any type coercion based on the data type of the variable on the left side of the assignment operator (=)

```
float n1;
float n2;
float n3;
float n4;
int n5;
int n6;

n1 = 3.2;
n2 = 2.0;
n3 = 0.4;
```

Evaluate each of the following (show the final value assigned):

11. **n5 = n3 + n1 / n2 * 3**;

    = _____

    = _____

    = _____

    n5 (final value stored) = _____

12. **n4 = 5 / 10 * n1**;

    = _____

    = _____

    n4 (final value stored) = _____

13. **n6 = n1 * n3**;

    = _____

    = _____

    n6 (final value stored) = _____