**Instructions:** This quiz homework assignment focuses primarily on some of the basic syntax and arithmetic expressions of C++. The answers to the following questions can be determined from Chapters 3 and 4 of the lecture notes and Chapters 2 through 4 of the text. When code fragments are given, assume the presence of any include directives that are needed to ensure compilation.

After you have analyzed the questions and decided what answers you believe are correct, you may find it useful to write some short programs to test your logic.

The on-line Opscan form for this quiz provided by the Curator system must be used for this assignment. (No other submissions will be accepted!) Check the course web site for the due date for this quiz.

The CS1044 online quizzes are open book, open notes, open Web quizzes. It is an honor code violation to discuss, (in any form: written, verbal or electronic), any portion of these quizzes with any other students, (regardless of whether they are taking the course or not). It is also an honor code violation to have a copy of a quiz, (in any form: written, verbal or electronic), in your possession when not taking a quiz. Failure to adhere to any of these restrictions is a Va Tech Honor Code violation, ([www.honorsystem.vt.edu](http://www.honorsystem.vt.edu)).

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For questions 1 through 3, select the value of the given C++ arithmetic expression. Note that the presence of a decimal point indicates a value is a `double`, rather than an `int`.

1. \( \frac{9.0}{6.0} + \frac{5}{2} \)
   - 1) 3
   - 2) 3.0
   - 3) 3.5
   - 4) 4
   - 5) 4.0
   - 6) None of these

2. \( 9 \times 3 / 4 \)
   - 1) 0
   - 2) 6
   - 3) 6.75
   - 4) 7
   - 5) None of these

3. \( 14 \% 7 + 3 \% 4 \)
   - 1) 0
   - 2) 2.75
   - 3) 3
   - 4) 5
   - 5) None of these

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For questions 4 through 6, select the value assigned to the relevant variable, given the declarations:

```cpp
int anInt;
double aDble;
```

4. \( \text{aDble} = \frac{5}{4}; \)
   - 1) 0.0
   - 2) 1.0
   - 3) 1.25
   - 4) This is not allowed
   - 5) None of these

5. \( \text{anInt} = \frac{5}{4}; \)
   - 1) 0
   - 2) 1
   - 3) 1.25
   - 4) This is not allowed
   - 5) None of these

6. \( \text{aDble} = \frac{5}{2} + 3.0; \)
   - 1) 0.0
   - 2) 5.0
   - 3) 5.5
   - 4) 6.0
   - 5) None of these
7. At the hardware level, the values 5 and 5.0 are stored in exactly the same way.

1) true  2) false  3) maybe

8. Assuming that all variables are of type double, the correct C++ expression for \( \frac{a + bc}{d + e} \) is:

1) \( a + b * c / d + e \)  2) \( (a + b) * c / d + e \)  3) \( (a + b) * c / (d + e) \)  4) \( (a + b * c) / d + e \)  5) None of these

9. What value is assigned to the variable \( \text{Average} \) below?

```cpp
int    x = 4, y = 8, z = 5, w = 4;
double Average = (x + y + z + w) / 4;
```

1) 5.25  2) 5  3) 5.0  4) 4.75  5) None of these

10. Among the binary C++ operators +, -, *, /, and \%, which have the highest precedence when an expression is evaluated?

1) + and -  2) * and /  3) *, /, and %  4) +, -, and %  5) None of these