

Instructions: This homework assignment focuses primarily on some of the basic syntax and semantics of C++. The answers to the following questions can be determined from Topics 3 and 4 of the lecture notes and Chapters 2 and 3 of the text.

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. Submit your answers to the Curator collection point HWQuiz2.

For questions 1 through 4, select the value of the given C++ arithmetic expression. Note that the presence of a decimal point indicates a `double`, rather than an `int`. Be sure to take into account the precedence rules for the arithmetic operations.

1. [5 points] $6.0 / 8.0 + 5 / 2$

- | | | |
|--------|---------|------------------|
| 1) 0.0 | 4) 2.75 | 7) None of these |
| 2) 2 | 5) 3 | |
| 3) 2.5 | 6) 3.25 | |

2. [5 points] $9 / 2 * 2$

- | | | |
|---------|------|------------------|
| 1) 2 | 3) 8 | 5) None of these |
| 2) 2.25 | 4) 9 | |

3. [5 points] $2 * 9 / 2$

- | | | |
|---------|------|------------------|
| 1) 2 | 3) 8 | 5) None of these |
| 2) 2.25 | 4) 9 | |

4. [5 points] $14 \% 4 + 3 \% 4$

- | | | |
|------|---------|------------------|
| 1) 2 | 3) 3.75 | 5) 5 |
| 2) 3 | 4) 4.25 | 6) None of these |
-

For questions 5 through 8, select the value assigned to the relevant variable, given the declarations:

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

5. [5 points] `aDble = 4 / 5;`

- | | | |
|--------|------------------------|------------------|
| 1) 0.0 | 3) 1.0 | 5) None of these |
| 2) 0.8 | 4) This is not allowed | |

6. [5 points] `aDble = 4 / 5.0;`

- | | | |
|--------|------------------------|------------------|
| 1) 0.0 | 3) 1.0 | 5) None of these |
| 2) 0.8 | 4) This is not allowed | |
-

7. [5 points] `anInt = 4 / 5;`

- | | | |
|--------|------------------------|------------------|
| 1) 0 | 3) 1 | 5) None of these |
| 2) 0.8 | 4) This is not allowed | |

8. [5 points] `anInt = 4 / 5.0;`

- | | | |
|--------|------------------------|------------------|
| 1) 0 | 3) 1 | 5) None of these |
| 2) 0.8 | 4) This is not allowed | |

9. [5 points] `aDble = 5 / 2.0;`

- | | | |
|--------|--------|------------------|
| 1) 0.4 | 3) 2.5 | 5) None of these |
| 2) 2.0 | 4) 3.0 | |

10. [10 points] Assuming that all variables are of type `double`, the correct C++ expression for $ab + c$ is:

- | | |
|-----------------------------|-----------------------|
| 1) <code>a * b + c</code> | 3) Both are correct |
| 2) <code>a * (b + c)</code> | 4) Neither is correct |

11. [10 points] Assuming that all variables are of type `int`, the correct C++ expression for $\frac{a+b}{c}$ is:

- | | |
|-------------------------------|------------------|
| 1) <code>a + b / c</code> | 5) 1 and 2 only |
| 2) <code>a / c + b / c</code> | 6) 1 and 3 only |
| 3) <code>(a + b) / c</code> | 7) 2 and 3 only |
| 4) All of them | 8) None of these |

12. [10 points] Assuming that all variables are of type `int`, the correct C++ expression for $\frac{a}{b+c}$ is:

- | | |
|-------------------------------|------------------|
| 1) <code>a / b + c</code> | 5) 1 and 2 only |
| 2) <code>a / (b + c)</code> | 6) 1 and 3 only |
| 3) <code>a / b + a / c</code> | 7) 2 and 3 only |
| 4) All of them | 8) None of these |

13. [10 points] Assuming that all variables are of type `int`, the correct C++ expression for $\frac{(a+b)c}{d+e}$ is:

- | | | |
|-------------------------------------|---------------------------------------|------------------|
| 1) <code>a + b * c / d + e</code> | 3) <code>(a + b) * c / (d + e)</code> | 5) None of these |
| 2) <code>(a + b) * c / d + e</code> | 4) <code>(a + b * c) / d + e</code> | |

