

Worksheet #5

CS 1405

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Name: _____

Score: _____

1. Fill in the blanks for each of the following:

a. What arithmetic operations have the same precedence as multiplication? _____

b. When parentheses are nested, which set of parentheses is evaluated first in an arithmetic expression? _____

c. A location in computer's memory that may contain different values at various times throughout the execution of a program is called a _____.

2. Evaluate the following expressions with the integers 7 and 22 as operands.

a. $22 / 7 =$

b. $7 / 22 =$

c. $22 \% 7 =$

d. $7 \% 22 =$

3. Repeat the previous exercise for integers 15 and 16.

a. $15 / 16 =$

b. $16 / 15 =$

c. $15 \% 16 =$

d. $16 \% 15 =$

4. Given the following variable definitions:

```
double a, b, c, x;  
int i, j, k;
```

Rewrite each statement so that valid C++ arithmetic expressions are formed.

a. $x = 4.0a * c;$

b. $i = 5j3;$

c. $k = 3(i + j);$

d. $x = 5a / bc;$

5. Given the following variable definitions and executable statements:

```
int a = 1, b = 2, c = 3, d = 4;  
int x, y, z;
```

```
x = b*b - 4*a*c;  
y = (2*a + 3*c)/2*d;  
z = 3*d + 2*c + 3*b - a;
```

Determine the values stored in the variables x, y, and z.

x =

y =

z =

6. Write a C++ statement to determine x^3 and store the result in y. Assume both are floating-point variables.

7. What header file is needed for C++ math functions?