



Name _____ October 17, 2016

Order of operations Practice in C

1.	<p>Which of the following is the correct order of evaluation for the below expression?</p> $z = x + y * z / 4 \% 2 - 1$ <p> <u>A.</u> * / % + - = <u>B.</u> = * / % + - <u>C.</u> / * % - + = <u>D.</u> * % / - + = </p>	A
2.	<p>Which of the following correctly shows the hierarchy of arithmetic operations in C?</p> <p> <u>A.</u> / + * - <u>B.</u> * - / + <u>C.</u> + - / * <u>D.</u> / * + - </p>	D Simply called as BODMAS (Bracket of Division, Multiplication, Addition and Subtraction)
3.	<p>What will be the output of the program?</p> <pre>#include<stdio.h> int main() { int i=-3, j=2, k=0, m; m = ++i && ++j && ++k; printf("%d, %d, %d, %d\n", i, j, k, m); return 0; }</pre> <p> <u>A.</u> -2, 3, 1, 1 <u>B.</u> 2, 3, 1, 2 <u>C.</u> 1, 2, 3, 1 <u>D.</u> 3, 3, 1, 2 </p>	A
4.	int x = 2 * 10 + 10 / 2 + 2;	27
5.	int x = 2 * (10 / 10) / 2 + 2;	22
6.	int x = 2 * (10 + 10) / (2+2);	10

Recommended reading: Pages 1 – 7, 9, and 10 of <http://www.howstuffworks.com/c.htm>. and Chapters 1 – 5, 9, and 11 – 17 of *Absolute Beginner's Guide to C*.

Rewrite each of these in the way you would type it into the computer in C language

7.	$\sqrt{x^2 + y^2}$	<code>sqrt(pow(x,2) + pow(y,2))</code>
8.	$\frac{-b + \sqrt{b^2 - 4ac}}{2a}$	<code>(-b + sqrt((b * b) - (4 * a * c))) / (2 * a)</code>
9.		rewrite this in the box to the left, the way a human would write it in math class <code>sqrt(pow(x,2) + pow(y,2))</code>
10.	$rate^2 + delta$	<code>(rate*rate) + delta</code>
11.	$\frac{1}{time + 3mass}$	<code>1/(time + (3*mass))</code>
12.	$\frac{a - 7}{t + 9v}$	<code>(a - 7) / (t + (9 * v))</code>

13. Based on the C operator precedence and associativity, state the execution order of the following expressions by writing 1, 2, 3, 4 in the proper boxes. (i.e. write a 1 in the box under the operation that will be done first, write a 2 in the box under the operation that will be done second, etc.)

$$a + b + c + d + e$$

$$a + b * c - d / e$$

$$a / (b + c) + d \% e$$

$$a / (b * (c + (d - e)))$$

$$a + b + c + d + e$$

1

2

3

4

$$a + b * c - d / e$$

3

1

4

2

$$a / (b + c) + d \% e$$

2

1

4

3

$$a / (b * (c + (d - e)))$$

4

3

2

1