

1. How many lines do each of the following print?

```
{int i, j, k;  
i = 0;  
while(i < 10)  
{j = 4;  
while(j > 0)  
{Console.WriteLine(i*j);  
j -= 2;  
}  
i++;  
}  
}
```

Printed lines \_\_\_\_\_

```
{i = 0;  
while (i > -3)  
{j = 4;  
Console.WriteLine(j);  
while (j > 0)  
{Console.WriteLine(i*j);  
j--;  
}  
i--;  
}  
}
```

Printed lines \_\_\_\_\_

2. What will the following statement print?

```
Console.WriteLine(15/2+13.5);
```

**20.5**

3. If i, j, and k are all of type int and i = 2, j = 4, and k = 8, mark whether each of the following logical expressions is true or false.

A)  $!(i==2) \ || \ (j < 7)$  \_\_\_\_\_      B)  $!((j<5) \ \&\& \ (k<9))$  \_\_\_\_\_

4. If i, j, and k are all of type int and i = 1 and j = 2, what is the value of i, j, and k *after* execution of the following line of code?

```
k = ++i + j--;
```

i = \_\_\_\_\_    j = \_\_\_\_\_    k = \_\_\_\_\_

5. Explain the difference between the output functions *Console.WriteLine* and *Console.Write*.

6. Write a C# statement which will set k equal to 17 if and only if x is greater than 14 AND y is less than 2.

\_\_\_\_\_

\_\_\_\_\_

7. Given that A, B, and T are integers with A = 7, B = 9, and T = 12 what is the value for these three variables after the following C++ sequence is executed.

```
T = A;
```

```
A = B;
```

```
B = T;
```

A = \_\_\_\_\_    B = \_\_\_\_\_    T = \_\_\_\_\_

8. Answer questions A) to D) about the following program segment.

```
{if (i==j)
    Console.WriteLine("1");
else if ((i%j)<3)
    Console.WriteLine("2");
else if (i<(j-1))
    Console.WriteLine("3");
else
    Console.WriteLine("4");
}
```

- A) If  $i = 9$  and  $j = 4$  what is the output? \_\_\_\_\_  
B) If  $i = 4$  and  $j = 9$  what is the output? \_\_\_\_\_  
C) If  $i = 5$  and  $j = 6$  what is the output? \_\_\_\_\_  
D) If  $i = 5$  and  $j = 9$  what is the output? \_\_\_\_\_

9. Write a C# program to print out the sine and cosine of all of the integer degrees from 0 to 90. Your output should appear in two separate columns separated by a comma.

10. Write a program to evaluate the equation given by  $y = x^4 - \frac{\sin(x)}{x^2}$  for values of  $x$  starting at  $x = 1$  in increments of 0.1 until  $y$  is greater than or equal to 1200. Print all values of  $y$  and  $x$  for which  $y$  is greater than 100. Print no other values.