1. Show what is printed as a result of each of the following: (all variables have been declared to be of type `int`.

A) \[ a = 23; \]
\[ b = 3; \]
Console.Write(a/b);

B) \[ a = 12; \]
\[ b = 5; \]
\[ c = a/b*2; \]
Console.Write(c);

C) \[ a = 9; \]
\[ b = 2; \]
Console.Write(a % b);

Printed Result____________
Printed Result____________
Printed Result____________

2. How many lines of print do each of the following nested loop structures produce?

A)

```csharp
i = 12;
while(i > -2)
{
    Console.WriteLine("Exam");
    for(j=0;j<=29;j++)
    {
        Console.WriteLine("One");
        i--;
    }
}
Console.WriteLine("is easy");
```

Lines of Print_________________

B)

```csharp
i = 0;
while(i < 10)
{
    Console.WriteLine("Jello");
    j = 0;
    while(j < 100)
    {
        Console.WriteLine("Hello");
        j++;
    }
    i++;
}
```

Lines of Print_________________

3. Write a single C# line of code which will set k equal to 17 if and only if x is greater than 14 AND y is less than 2.

__________________________________________________________________________

4. 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.

```csharp
t = a;
a = b;
b = t;
a = ___________   b = ___________   t = ___________
```

5. If i, j, and k are all of type `int` and i = 4 and j = 5, what is the value of i, j, and k after execution of the following line of code?

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

6. Show what is printed as a result of each of the following: (all variables have been declared to be of type `int` and x = 0, a = 9, b = 17, and c = 32)

A) \[ x = a/b + c--/12; \]
\[ Console.WriteLine(x); \]

B) \[ x = a/2 + c/b++; \]
\[ Console.WriteLine(x); \]

C) \[ x = 3*a/c*b; \]
\[ Console.WriteLine(x); \]

D) \[ x = (a + 1)/2*(b/c); \]
\[ Console.WriteLine(x); \]
7. Given below is a main program and two private methods.
   A) Fill in the memory map to show the value of the variables that are stored as the program runs.
   B) Show what the program prints. __________________________

```csharp
{static void Main(string[] args)
    {int x, y, a;
     x = 3;
     y = 5;
     a = M1(x, y);
     Console.WriteLine(a/2);
    }
static int M1(int y, int x)
    {int a;
     x = x + y;
     a = y + 2*M2(x, y);
     return a;
    }
static int M2(int w, int x)
    {int y
     x = 2;
     y = 4;
     return x + y*2 + w;
    }
}
```

8. Rewrite the following loop structure using a while statement.
   ```csharp
   int i;
   for(i=0;i<180;i+=2)
    {if(i % 13 == 0)
     Console.WriteLine(i);
    }
   ```

9. Write a program to print the sum of the odd integers in the range 31 ≤ x < 99.
10. Write a program to evaluate the equation given by  \( y = 4x^3 + 2x^2 + 45 \) for values of \( x \) starting at \( x = 0 \) in increments of 0.1 until \( y \) is greater than or equal to 1234. Print all values of \( y \) and \( x \) for which \( y \) is greater than 10. Print no other values.

11. Write a program to prompt the user for an input \( n \). Calculate and print the sum given by:
\[
\sum_{k=0}^{n} (1.2^k + k)
\]

12. The program below evaluates a method to obtain and print a value for \( y \). If the method is supposed to evaluate the equation \( y = 3x^3 - 19x^2 + 2x - 4 \) write the method.

```csharp
double x, y;
x = 0;
y = F1(x);
while(y < 1000)
{
    Console.WriteLine(y);
    x += 0.5;
y = F1(x);
}
```