

Recursion Worksheet 2

1. What happens when the program below is executed?

```
int Recurse(int x)
{
    x = 3;
    if (0 == x)
        return 1;
    else
    {
        x = x - 1;
        return x * Recurse(x);
    }
}
```

```
System.out.println( Recurse(5) ); // method call
```

2. Given the following function, what will **Mystery(40)** yield?

```
void Mystery (int n)
{
    if (n>2)
        Mystery (n % 3);
    System.out.println(n / 3);
}
```

3. Evaluate $F(6)$ given:

$F(x)$	$=$	$F(x - 2) + 2 * F((x - 1) \% 3) - 1$	when x is even and positive
	$=$	$x + 1$	when x is odd and positive
	$=$	0	otherwise

(show work)