CPSC 1045-Worksheet 6: Functions

1. What is meant by calling/invoking a function?
2. What is a parameter and why are they used?
3. What is a return value and how is it related to expression evaluation?

For the following function:

Listing 1:
```
function doubleOrTriple( x ) {
   "use strict";
   if(typeof(x) !== "number"){
        return NaN;
   }

   if(50 <= x){
        return x*2;
   } else {
        return x*3;
   }
}
```

4. What are the values of the following 2 expressions?

```
doubleOrTriple(40);
```

```
doubleOrTriple(doubleOrTriple(40));
```

Listing 2:
```
function drawSomething(ctx,x,y,N,r1,r2){
   "use strict";
   if(isNaN(x) || isNaN(y) || isNaN(r1) ||
      isNaN(r2) || isNaN(N) ){
      console.log("Error in one of the parameters.");
      return;
   }

   ctx.save();
   ctx.translate(x,y);
   ctx.beginPath();
   for(var i = 0; i <= N; i = i + 1){
      ctx.rotate(Math.PI/N);
      ctx.lineTo(r1,0);
      ctx.rotate(Math.PI/N);
      ctx.lineTo(r2,0);
```

```
        }
        ctx.stroke();
        ctx.restore();
        return;
}
```

For the above function:
5. What does the above code draw and where does it draw it?

6. Variable scopes:
```
var x = 9;
var y = 18;
var z = 27;

function a (x) {
    "use strict";
    var y = 2;
    return x + y + z;
}
function b (y) {
    "use strict";
    var z = 19;
    return x + y + z;
}
function c (z) {
    "use strict";
    var x = 3;
    return x + y + z;
}
```

What is the value of each of the following expressions? Explain whey they are different even though every function returns x + y + z.

```
a(10);
```

```
b(10);
```

```
c(10);
```