CSE 142 Section Handout #5
Solutions

1.

Call	Output
`mystery1(1);`	`1 0`
`mystery1(6);`	`4 2`
`mystery1(19);`	`16 4`
`mystery1(39);`	`32 5`
`mystery1(74);`	`64 6`

2.

Call	Value Returned
`mystery2(2);`	`1`
`mystery2(-1);`	`0`
`mystery2(7);`	`3`
`mystery2(18);`	`2`
`mystery2(43);`	`4`

3.

Call	Value Returned
`mystery3(3, 3);`	`3`
`mystery3(5, 3);`	`1`
`mystery3(2, 6);`	`2`
`mystery3(12, 18);`	`6`
`mystery3(30, 75);`	`15`

4.

```
public static void showTwos(int n) {
    System.out.print(n + " = ");
    while (n % 2 == 0) {
        System.out.print("2 * ");
        n = n / 2;
    }
    System.out.println(n);
}
```

5.

```
public static void showHailstone(int n) {
    System.out.print("sequence for " + n + ": " + n);
    while (n != 1) {
        if (n % 2 == 0) {
            n /= 2;
        } else {
            n = 3 * n + 1;
        }
        System.out.print(", " + n);
    }
    System.out.println();
}
```

6.

```
public static String sign(int a, int b) {
    if (a == 0 || b == 0) {
        return "Zero";
    } else if ((a < 0 && b < 0) || (a > 0 && b > 0)) {
        return "Positive";
    } else { // (a < 0 && b > 0) || (a > 0 && b < 0)
        return "Negative";
    }
}
```

CSE 142 Section Handout #5
Solutions (continued)

7.

```
public static void rollSix() {
   Random r = new Random();
   int count = 0;
   int roll = -1;
   while (roll != 6)  {
         roll = r.nextInt(6) + 1;
         System.out.println("Rolled: " + roll);
         count++;
   }
   System.out.println("You got a six in " + count + " turns.");
}
```

8.

```
public static void randomWalk() {
    int n = 0;
    int max = 0;
    Random r = new Random();
    System.out.println("position = " + n);

    while (-3 < n && n < 3) {
        int flip = r.nextInt(2);
        if (flip == 0) {
            n++;
        } else {
            n--;
        }
        max = Math.max(n, max);
        System.out.println("position = " + n);
    }
    System.out.println("max position = " + max);
}
```