

Recursion Test 2 Key

1. What is returned by the method call: **rec(5)** ?

```
public int rec(int n)
{
    if(n <= 1)
        return 1;
    else
        return n + rec(n - 1);
}
```

- a. 4
b. 1
c. 24
d. 10
e. 15

2. What is returned by the method call: **recurs (6)** ?

```
public int recurs(int n)
{
    int result = 0;
    if(n <= 3)
        result = 2;
    else
        result = recurs(n - 2) + (n - 2);
    return result;
}
```

- a. 10
b. 2
c. 4
d. 8
e. 20

3. Consider the following method.

```
public int rec(int n)
{
    if(n <= 1)
        return 0;
    else
        return n + rec(n - 1) + rec(n - 2);
}
```

What value does **rec(4)** return?

- a. 0
b. 5
c. **11**
d. 21
e. 38

4. Consider the following method.

```
public int go(int a, int b)
{
    if(a > b)
        return a;
    else
        return b + go(a+1, b-1);
}
```

What value does **go(4, 7)** return?

- a. 5
- b. 16
- c. 19
- d. 23
- e. 38

5. Consider the following method.

```
public String loopy(String s, int x)
{
    if( x <= 0 )
        return s;
    else
        return x + s + loopy(s, x - 2);
}
```

Which of the following is output as a result of the call **loopy("", 6)**.

- a. 6420
- b. 642
- c. 6666
- d. 246
- e. 246642

6. Consider the following method.

```
public int rec(int n)
{
    if(n <= 1)
        return 1;
    else if(n % 2 == 0)
        return n - rec(n - 1);
    else
        return n + rec(n - 1);
}
```

What value does **rec(7)** return?

- a. 0
- b. 1
- c. 8
- d. 12
- e. 33