

## Practice Exam #2

### SECTION I

Time — 1 hour and 15 minutes

Number of questions — 40

Percent of total grade — 50

1. What is the output of the following program segment?

```
int num = 5;
while (num >= 0)
{
    num -= 2;
}
System.out.print(num);
```

- (A) -2
  - (B) -1
  - (C) 0
  - (D) 2
  - (E) 21
2. What is the output from

```
int n = 12;
System.out.print(goFigure(n));
System.out.print(" " + n);
```

where the method `goFigure` is defined as follows:

```
public double goFigure(int n)
{
    n %= 7;
    return (double)(12 / n);
}
```

- (A) 2.0 12
- (B) 2.4 12
- (C) 2.0 5
- (D) 2.4 5
- (E) 2.4 6

3. Which of the following expressions will evaluate to true when x and y are boolean variables with different values?

- I.  $(x \parallel y) \ \&\& \ (!x \parallel !y)$
- II.  $(x \parallel y) \ \&\& \ !(x \ \&\& \ y)$
- III.  $(x \ \&\& \ !y) \parallel (!x \ \&\& \ y)$

- (A) I only
  - (B) II only
  - (C) I and II only
  - (D) II and III only
  - (E) I, II, and III
4. What is the output from the following code segment?

```
double x = 5*4/2 - 5/2*4;  
System.out.println(x);
```

- (A) 0
- (B) 1
- (C) 0.0
- (D) 1.0
- (E) 2.0

5. 

```
private int product(int n)  
{  
    if (n <= 1)  
        return 1;  
    else  
        return n * product(n-2);  
}
```

What is the output when product (6) is called?

- (A) 1
- (B) 8
- (C) 12
- (D) 48
- (E) 720

## Practice Exam #3

### SECTION I

Time — 1 hour and 15 minutes

Number of questions — 40

Percent of total grade — 50

1. Given the declarations

```
int p = 5, q = 3;
```

which of the following expressions evaluate to 7.5?

- I. `(double)p * (double)q / 2;`
- II. `(double)p * (double)(q / 2);`
- III. `(double)(p * q / 2);`

- (A) I only
- (B) II only
- (C) I and II only
- (D) I, II, and III
- (E) None of them

2. Consider the following method.

```
public void mystery(int a, int b)
{
    System.out.print(a + " ");
    if (a <= b)
        mystery(a + 5, b - 1);
}
```

What is the output when `mystery(0, 16)` is called?

- (A) 0
- (B) 0 5
- (C) 0 5 10
- (D) 0 5 10 15
- (E) 0 5 10 15 20

3. Consider the following method fun2.

```
public int fun2(int x, int y)
{
    y -= x;
    return y;
}
```

What are the values of the variables a and b after the following code is executed?

```
int a = 3, b = 7;
b = fun2(a, b);
a = fun2(b, a);
```

- (A) -1 and 4
  - (B) -4 and 7
  - (C) -4 and 4
  - (D) 3 and 7
  - (E) 3 and 4
4. Assuming that a and b are boolean variables, when is the following expression true?

```
!(!a || b) || (!a && b)
```

- (A) If and only if a and b have different values
- (B) If and only if a and b have the same value
- (C) If and only if both a and b are true
- (D) If and only if both a and b are false
- (E) Never