AP COMPUTER quiz11

Time—1 hour and 30 minutes for total 40 questions.

Average: 2.25 for each question.

If you finish 5 questions within 11 minutes, that's good enough.

1. A math teacher is writing a program that will correctly calculate the area of acircle. Recall that the area of a circle is pi times the radius squared (πr^2). Assuming Math-PI returnsan accurate decimal approximation of pi, which of the following statements **WILL NOT** calculate an accurate area of a circle with radius 22 ?

   ```
   (A) r*r*Math.PI; //r is the int 22
   (B) r*r*Math.PI; // r is the double 22.0
   (C) (double) r*r*Math.PI; //r is the int 22
   (D) (double) (r*r) *Math.PI; // r is the int 22
   (E) All of the above choices will calculate an accurate area.
   ```

2. Consider the following code segment:

   ```
   String s = "This is the beginning";
   String t = s.substring(5);
   int n = t.indexOf ("the");
   ```

   Which of the following will be the value of n ?

   ```
   (A) -1
   (B) 3
   (C) 7
   (D) 9
   (E) 8
   ```

Use class Chair and method sitOnChair to answer Questions 3 and 4.

```java
public class Chair
{
    private int numberOfLegs = 4;
    private boolean padded;

    public Chair (boolean soft)
    {
        if (soft) padded = true;
        else padded = false;
    }

    public void sitOnChair ( )
    {
        /* program statements */
    }
}
```

3. method sitOnChair belongs to another class and is supposed to allow the user to "sit" on a Chair if the chair is padded. Which of the following code segments could be used to replace so that sitOnChair will work as intended?

```java
I.   Chair c =new Chair (true);
     c.sit();
II.  Chair c = new Chair(true);
III. Chair c = new Chair(true);
     if (c.padded) System.out.print ("You are sitting.");
```

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

4. Which of the following modifications, if any, would help to make the Chair class MOST useful to the sitOnChair method, based on the task attempted in Question 3?

```
(A) Adding an accessor method that returns the value of numberOfLegs
(B) Adding an accessor method that returns the value of padded
(C) Adding a mutator method that changes the value of numberOfLegs
(D) Adding a mutator method that changes the value of padded
(E) Adding an accessor method that returns the values of both numberOfLegs and padded
```

5. Consider the following method:

```
public int halfRoot(int n)
{
    return Math.sqrt(n) /2;
}
```

Which of the following method calls would cause a run-time error?

(A) halfRoot(-2)

(B) halfRoot (3)

(C) halfRoot ((int) 2.0)

(D) halfRoot (3.0)

(E) None will cause a run-time error.