SECTION I

**Number of Questions—4**

**Percent of total test grade—50**

1. Consider the following code segment:  
     
    int x = 3;  
    double y = Math.pow(x, 3);  
    double z = Math.sqrt(y - Math.abs(-2));   
     
   What is the value of z after this code segment has executed?  
     
   (A) 0.0  
   (B) 3.0  
   (C) 5.0  
   (D) 9.0  
   (E) 10.0
2. What does the expression "Nomnomnom yummy turkey".indexOf("Thank") evaluate to?  
     
   (A) Thank  
   (B) Nomnomnom  
   (C) turkey  
   (D) 0  
   (E) -1
3. Consider the following code segment.  
     
    int x = /\* some integer value \*/ ;  
    int y = /\* some integer value \*/ ;  
     
    boolean result = (x < y);  
     
    result = ( (x >= y) && !result );  
     
   Which of the following best describes the conditions under which the value of result will be true after the code segment is executed?  
     
   (A) Only when x < y  
   (B) Only when x >= y  
   (C) Only when x and y are equal  
   (D) The value will always be true .

(E) The value will always be false .

1. Consider the following instance variables and incomplete method that are part of a class that represents an item. The variables years and months are used to represent the age of the item, and the value for months is always between 0 and 11, inclusive. Method updateAge is used to update these variables based on the parameter extraMonths that represents the number of months to be added to the age.  
     
    private int years;  
    private int months; // 0 <= months <= 11  
     
    public void updateAge(int extraMonths)  
    {  
    /\* *body of updateAge* \*/  
    }  
     
   Which of the following code segments shown below could be used to replace /\* body of updateAge \*/ so that the method will work as intended?  
     
   I int yrs = extraMonths % 12;  
    int mos = extraMonths / 12;  
    years = years + yrs;  
    months = months + mos;  
     
   II int totalMonths = years \* 12 + months + extraMonths;  
    years = totalMonths / 12;  
    months = totalMonths % 12;  
     
   III int totalMonths = months + extraMonths;  
    years = years + totalMonths / 12;  
    months = totalMonths % 12;

(A) I only  
(B) II only

(C) III only  
(D) I and II  
(E)II and III

**END OF SECTION I.**

SECTION II

**Number of Questions—1**

**Percent of total test grade—50**

1. Write a static method middleValue that takes three int parameters, and returns a int . It should **return** the middle value of the three parameters (sometimes called the *median value*). You may assume that all three parameters are different values (there are no duplicates).  
     
   For instance, the method calls:

* middleValue(3, 1, 4) should return 3
* middleValue(1, 2, 8) should return 2
* middleValue(8, 9, 0) should return 8
* middleValue(3, 5, 4) should return 4
* middleValue(4, 5, 3) should return 4

Write your **method header** and **method body** in the space below. For this problem, your

method must use a return statement, **not** System.out.println() .

**END OF SECTION II.**