**AP COMPUTER SCIENCE A SGO PRE TEST**

Complete the following problems **without** using an IDE or calculator:

\*Fill in the blank **-or-** highlight the correct choice

*Part One*

1. Which of the following pairs of declarations will cause an error message? (One or more options may be correct)

**Option I double x = 14.7;**

**int y = x;**

**Option II double x = 14.7;**

**int y = (int) x;**

**Option III int x = 14;**

**double y = x;**

|  |
| --- |
| **I** |

2. What value is stored in *result* if:

**int result = 13 - 3 \* 6 / 4 % 3;**

|  |
| --- |
| **12** |

3. What values are stored in *x* and *y* after execution of the following program segment?

**int x = 30, y = 40;**

**if (x >= 0) {**

**if(x <= 100) {**

**y = x \* 3;**

**if (y < 50)**

**x /= 10;**

**}**

**else**

**y = x \* 2;**

**}**

**else**

**y = -x;**

|  |
| --- |
| **x = 30**  **y = 60** |

4. Which of the following will evaluate to *true only* if boolean expressions *A*, *B*, and *C* are all false?

- !A && !(B && !C)

- !A || !B || !C

- !(A || B || C)

- !(A && B && C)

- !A || !(B || !C)

5. Assume that *a* and *b* are integers. The boolean expression

*!(a <= b) && (a \* b > 0)* will always evaluate to true given that:

- a = b

- a > b

- a < b

- a > b and b > 0

- a > b and b < 0

6. Consider the code segment below. What will be output after its execution?

**int x = 10, y = 0;**

**while (x > 5){**

**y = 3;**

**while (y < x){  
 y \*= 2**

**if (y % x == 1){**

**y += x;**

**}**

**}**

**x -= 3;**

**}**

**System.out.println(x + “ & “ + y);**

|  |
| --- |
| **4 & 12** |

7. A program simulates fifty slips of paper, numbered 1 through 50, placed in a bowl for a raffle drawing. Which of the following statements stores in *winner* a random integer from 1 to 50?

- int winner = (int) (Math.random() \* 50) + 1;

- int winner = (int) (Math.random() \* 50);

- int winner = (int) (Math.random() \* 51);

- int winner = (int) (Math.random() \* 51) + 1;

- int winner = (int) (1 + Math.random() \* 49);

8. A program has a String variable fullName that stores a first name, followed by a space, followed by a last name. There are no spaces in either the first or last names. Here are some examples of fullName values: “Anthony Coppola”, “Tina Carroll”. Consider this code segment that extracts the last name from a fullName variable, and stores it in lastName with no surrounding blanks:

**int k = fullName.indexOf(“ “); //find index of blank**

**String lastName = /\* expression \*/**

Which is a correct replacement for /\* expression \*/ ?

(One or more options may be correct)

**Option I fullName.substring(k);**

**Option II fullName.substring(k + 1);**

**Option III fullName.substring(k + 1, fullName.length());**

|  |
| --- |
| **II, III** |

9. **public static String getString(String s1, String s2){**

**int index = s1.indexOf(s2);**

**return s1.substring(index, index + s2.length());**

**}**

Which is true about getString? It may return a string that...

(One or more options may be correct)

**Option I Is equal to s2**

**Option II Has no characters in common with s2**

**Option III Is equal to s1**

|  |
| --- |
| **I** |

10. **public static String doSomething(String s){**

**final String BLANK = “ “; //BLANK contains a single space**

**String str = “”; //an empty string**

**String temp;**

**for (int i = 0; i < s.length(); i++){**

**temp = s.substring(i, i+1);**

**if(!(temp.equals(BLANK))**

**str += temp;**

**}**

**return str;**

**}**

Consider this method. Which of the following is the most precise description of what *doSomething* does?

- It returns s unchanged

- It returns s with all its blanks removed

- It returns a String that is equivalent to s with all its blanks removed

- It returns a String that is an exact copy of s

- It returns a String that contains s.length() blanks