**­Re-Cap Lab** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_\_\_

*Follow the directions carefully for each problem. Please put all answers on the answer sheet provided. Staple any extra work you do onto this sheet. Each individual should hand in the assignment even though you are put in groups of 2 or more.*

1. Convert the following decimal numbers to binary, octal, and hex. Remember, ***octal (or base-8)*** numbers use eight symbols: 0, 1, 2, 3, 4, 5, 6, and 7 while ***hexadecimal (base-16)*** uses sixteen symbols: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F. (Put answers on the answer sheet.)

a. 15 b. 121

2. What is the output of the following code? (Put answer on the answer sheet, please.)

int sum = 0;

for (int i = 2; i < 20; i+=3)

sum += i;

System.out.print(sum);

3. What is the output of the following code? (Put answer on the answer sheet, please.)

int sum = 0;

for (int i = 3; i > 0; i - = 2)

for (int j = 0; j < 5; j++)

sum += i;

System.out.print(sum);

4. Consider the following method:

public static void arrayMystery(int[] a) {

for (int i = 1; i < a.length; i++) {

a[i] = i + a[i - 1] - a[i];

}

}

Indicate on the answer sheet what values would be stored in the array after the method arrayMystery executes if the integer array in each letter is passed as a parameter to the method.

*Original Contents of Array:*

a. int[] a1 = {7}; b. int[] a2 = {4, 3, 6};

arrayMystery(a1); arrayMystery(a2);

5. Assume that x is 1. Show the result of the following expressions on the answer sheet.

a. (true) && (3 > 4)

b. !(x > 0) && (x > 0)

c. (x >= 0) | | (x < 0)

d. (x < 1) | | (x++ > 1)

6. Convert the following while loop to a for loop on your answer sheet.

int i = 1;

int sum = 0;

while (sum < 10000) {

sum = sum + i;

i ++;

}

7. Assume that int a = 1 and double d = 1.0, and that each expression is independent. What are the results of the following expressions?

a. x = 46 / 9;

b. y = 4 + d \* d + 4;

c. d += 1.5 \* 3 + (++a);

*For problems 8 to 10, circle the correct answer on the answer sheet.*

8. True / False : A variable created in the for loop control can be used after the loop executes.

9. True / False : A call to a method with a void return type is always a statement itself, but a call to a method with a nonvoid return type is always a component of an expression.

10. True / False :

a. Every element in an array has the same type.

b. The array size is fixed after it is declared.

c. The array size is fixed after it is created.

d. An element in row *i* and column *j* of a two-dimensional array a would be accessed by the

following piece of code: a[ j ][ i ].

11. What is the result of the following method call? Write the output on your answer sheet.

public class Test1 {

public static void main (String[] args) {

int max = 0;

max(1, 2, max);

System.out.println(max);

} // end main

public static void max (int value1, int value2, int max) {

if (value1 > value2)

max = value1;

else

max = value2;

} // end max

} // end class

12. Show the output of the following class on your answer sheet.

public class Test2 {

public static void main (String [] args) {

int i = 1;

while ( i <= 6) {

xMethod(i, 2);

i++;

}

} // end main

public static void xMethod( int i , int num) {

for ( int j = 1; j <= i; j++) {

System.out.print(num + “ “);

num \*= 2;

}

} // end xMethod

} // end class