Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Computer Science AP A

TEST - Lessons 1 – 3

1. Given the variables length, width and area, write the Java statement that calculates and assigns the area of the rectangle to the appropriate variable.

2. Given the variables circumference and radius and the constant PI (use 3.14), write the Java statement that calculates and assigns the circumference of a circle to the appropriate value.

3. What is the value of each of the following expressions using Java precedence rules?

a. 15 / 2 + 5 – 2 \* 12 – 6

1. 17%3 + 8/2

1. (double)17/2

1. (4 + 11) / 2 – 7 + 2\*(12 + 5)

1. 1 + 2 + 3 + 4 + 5 + 6 + 7 /2

1. (3+ 8)/(2 + 4)
2. What is the output from each of the following segments of Java code?

a. int r = 6;

r++;

System.out.println(r);

b. int r = 6;

++r;

System.out.println(r);

c. int r = 6;

System.out.println(r++);

d. int r = 6;

System.out.println(++r);

e. int r = 6;

System.out.println(r++);

System.out.println(r++);

f. int s = 6;

s += 5;

System.out.println(s);

g. int m = 6;

m \*= 5;

System.out.println(m);

h. int numerator = 35;

int denominator = 6;

System.out.println(numerator/denominator);

System.out.println(numerator%denominator);

System.out.println((double)numerator%denominator);

5. Which of the following is NOT a legal identifier?

a) Mulder b) Sierra c) Mount Shasta d) Cricket

6. Which of the following is NOT a legal identifier?

a) harry b) ron c) hermione d)2drums

7. Declare and initialize the integer variable number to 0

8. Write a Java statement to declare an integer variable called totalCost.

9. Mark the following identifiers as either valid or invalid:

Valid Invalid

a. item#1 \_\_\_\_\_ \_\_\_\_\_

b. data \_\_\_\_\_ \_\_\_\_\_

c. y \_\_\_\_\_ \_\_\_\_\_

d. 3Set \_\_\_\_\_ \_\_\_\_\_

e. PAY\_DAY \_\_\_\_\_ \_\_\_\_\_

f. bin-2 \_\_\_\_\_ \_\_\_\_\_

g. num5 \_\_\_\_\_ \_\_\_\_\_

h square feet \_\_\_\_\_ \_\_\_\_\_

10. Give the reason why each of the following identifiers is illegal:

1. two spruce
2. high-voltage
3. 3’scompany
4. texas two step
5. phone.number
6. void

11. Write Java code that initializes two numbers to 25 and 40 and then prints the floating point average to the screen.

* 1. Write a Java statement that prints the value of a variable called *count* preceded by “The total is” and followed by “units.”

13. Which of the following is the Java operator for multiplication?

a. +   
 b. -   
 c. \*

d. /

e. %

14. Which of the following statements increments the value of i, then assigns the result to j?

a. j = i++ b. j = ++i;

c. i= j++; d. i = ++j;

15. Which of the following statements casts the variable i to an integer?

a. total = (int) i + num; b. total = (double)i + num;

c. total = i + (double)num; d. total = (float)i + num;

16. What are the values of each of the variables after the execution of this code segment?

No calculator is allowed! Do ALL your math LONG hand! ☺

double yards;

double pricePerYard;

double cost;

double tax;

double totalCost;

yards = 6.25;

pricePerYard = 4.49;

cost = yards \* pricePerYard;

tax = .0675 \* cost;

totalCost = cost + tax;

yards \_\_\_\_\_\_

pricePerYard \_\_\_\_\_\_\_

cost \_\_\_\_\_\_\_

tax \_\_\_\_\_\_\_

totalCost \_\_\_\_\_\_

17. Compute the value of each of the following expressions:

a. 4 % 5 --> \_\_\_\_\_

b. 5 / 3 - 10 => \_\_\_\_\_

c. 24 % 6 + 24 / 6 => \_\_\_\_\_

d. 22 / 25 => \_\_\_\_\_

e. 7 / 3 \* 4 => \_\_\_\_\_

f. 13 % 7 / 3 => \_\_\_\_\_

g. 7 + 2 – 3 \* 5 / 2 => \_\_\_\_\_

18. Trace through the code giving the values for each variable at each line. Put a “?” if you do not know:

final int n = 7;

int x, y , z;

x y z

x = 3; \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

y = x + 10; \_\_\_\_ \_\_\_\_\_ ?

z = y – 4; \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

y += 2; \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

x = z++; \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_