**Extra Questions 1 - 3**

**Answer Sheet**

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.

**Answer**: area = length \* width;

2. Given the variables circumference,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..

**Answer**: circumference = 3.14 \* radius \* 2;

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

a. 15 / 2 + 5 – 2 \* 12 – 6

**Answer**: **-**18

b. 17%3 + 8/2

**Answer**: 6

c. (double)17/2

**Answer**: 8.5

d. (4 + 11) / 2 – 7 + 2\*(12 + 5)

**Answer**: 34

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

**Answer**: 24

f. (3+ 8)/(2 + 4)

**Answer**: 1

4. What is the output from each of the following segments of Java code?

a. int r = 6;

r++;

System.out.println(r);

**Answer**: 7

b. int r = 6;

++r;

System.out.println(r);

**Answer**: 7

c. int r = 6;

System.out.println(r++);

**Answer**: 6

d. int r = 6;

System.out.println(++r);

**Answer**: 7

e. int r = 6;

System.out.println(r++);

System.out.println(r++);

**Answer**:

6

7

f. int s = 6;

s += 5;

System.out.println(s);

**Answer**: 11

g. int m = 6;

m \*= 5;

System.out.println(m);

**Answer**: 30

h. int numerator = 35;

int denominator = 6;

System.out.println(numerator/denominator);

System.out.println(numerator%denominator);

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

**Answer**:

5

5

5.8333333333

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

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

**Answer**: c

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

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

**Answer**: d

7. Declare and initialize the integer variable number to 0

**Answer**: int number = 0;

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

**Answer**: int totalCost;

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

Valid Invalid

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

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

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

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

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

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

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

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

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

1. two spruce - **Answer**: space
2. high-voltage - **Answer**: dash
3. 3’scompany - **Answer**: apostrophe
4. texas two step - **Answer**: spaces
5. phone.number - **Answer**: period
6. void - **Answer**: reserved word

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

**Answer**:

double first = 25;

double second = 40;

double average = (first + second)/2;

System.out.println(“Average = “ + average);

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

**Answer**:

System.out.println(“The total is “ + count + “ units.”);

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

a. +

b. -

c. \*

d. /

e. %

# Answer: c

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;

# Answer: b

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;

# Answer: a

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

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 \_\_6.25\_\_\_\_

pricePerYard\_\_\_4.49\_\_\_\_

cost \_\_\_28.0625\_\_\_\_

tax \_\_\_\_1.8942\_\_\_

totalCost \_\_\_29.9567\_\_\_

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

a. 4 % 5 => \_\_4\_\_\_

b. 5 / 3 - 10 => \_\_-9\_\_

c. 24 % 6 + 24 / 6 => \_\_4\_\_\_

d. 22 / 25 => \_\_0\_\_\_

e. 7 / 3 \* 4 => \_\_8\_\_\_

f. 13 % 7 / 3 => \_\_2\_\_\_

g. 7 + 2 – 3 \* 5 / 2 => \_\_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; \_\_3\_\_ \_\_?\_\_\_ \_\_?\_\_

y = x + 10; \_\_3\_\_ \_\_13\_\_ \_\_?\_\_

z = y – 4; \_\_3\_\_ \_\_13\_\_ \_\_9\_\_

y += 2; \_\_3\_\_ \_\_15\_\_ \_\_9\_\_

x = z++; \_\_9\_\_ \_\_15\_\_ \_\_10\_