**Quiz 1 – 3 – ANSWER SHEET**

1. Assume the following object declarations and initializations. This code will create a DrawingTool object called *crayon* and a SketchPad object called *board*. The *board* will have dimensions of 300 X 300. The *crayon* is constructed to be used with the *board.* The drawing will begin at the center of the board at the point (0,0) and faces up.

DrawingTool crayon;

SketchPad board;

board = **new** SketchPad(300,300);

crayon = **new** DrawingTool(board);

Starting in the center of the box, draw the figure generated by the following code segment:

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| quizanswer1 |

crayon.turnRight(45);

crayon.forward(40);

crayon.turnRight(90);

crayon.forward(40);

crayon.turnLeft(90);

crayon.forward(20);

crayon.setDirection(-90);

crayon.forward(30);

crayon.turnRight(135);

crayon.forward(20);

crayon.turnLeft(90);

crayon.forward(40);

crayon.turnRight(90);

crayon.forward(40);

crayon.up();

crayon.move(10,10);

crayon.down();

crayon.drawCircle(2);

2. State whether the following are legal identifiers in Java. If they are not legal, indicate why.

1. Auto-mobile – No, dashes not allowed
2. green giant – No, spaces not allowed
3. footballPlayer - Yes
4. my\_number - Yes

e. public – No, keywords not allowed

3. State whether the following are legal declarations and initializations of identifiers. If they are not legal, indicate how to correct them.

1. **int** num1 = 25.6; - No, ints cannot take decimal places
2. **int** num2 = 1,000; - No, ints cannot take commas
3. **double** num3 = 55; - Yes
4. **double** num4 = 4.34e5; - Yes
5. **char** ch1 = ‘$’; - Yes
6. **char** ch2 = 84; - Yes

* 1. Show the output generated by the following code segment:

**int** num1 = 2\*5 + 6;

**char** letter = 'B';

**double** num2 = 3.14;

|  |
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| Programming is all about details.  16B  You need to pay attention.3.14  , to every detail of it.  falsetrue |

**boolean** flag = false;

System.out.print("Programming is ");

System.out.print(“all ”);

System.out.println(“about details.”);

System.out.print(num1);

System.out.println(letter);

System.out.print("You need to pay attention.");

System.out.println(num2);

System.out.print(“, to every detail of it.\n”);

System.out.print(flag);

System.out.print(!flag);

5. What is the value of each of the following Java expressions?

a. 2 \* 5 + 3 \* 4 – 6 \_\_\_\_\_16\_\_\_\_

b. 17/3 \_\_\_\_\_5\_\_\_\_\_

c. (6 + 7) \* 2 /3 \_\_\_\_\_8\_\_\_\_\_

d. 25.5/5 \_\_\_\_\_5.1\_\_\_\_

e. (3 + 5)/(1 + 3)\*(7-8) \_\_\_\_\_-2\_\_\_\_\_

f. 17%3 \_\_\_\_\_2\_\_\_\_\_

6. What are the three components of a class and describe each one in detail.

a. Behaviors are the actions that an object of that class can make.

b. Attributes describe the state of an object.

1. Constructors detail how an object is created.

**Bonus Questions**

* 1. Eskimos are very good hunters, but they never hunt penguins. Why not? (2 points)

**Eskimos live at the North Pole & penguins live in the South Pole.**

2. Ms. Arroyo asked the class to see if they could find the sum of the first 50 odd numbers. As everyone settled down to their addition, Terry ran to her and said, "The sum is 2,500." Ms. Arroyo thought, "Lucky guess," and gave him the task of finding the sum of the first 75 odd numbers. Within 20 seconds, Terry was back with the correct answer of 5,625.  
  
 How does Terry find the sum so quickly? (5 points)

**The following pattern holds: The sum is equal to n x n, when n is the number of consecutive odd numbers, starting with 1. For example, the sum of the first 3 odd numbers is equal to 3 x 3, or 9; the sum of the first 4 odd numbers is equal to 4 x 4, or 16; the sum of the first 5 odd numbers is equal to 5 x 5, or 25; and so on.**

3. 7 dogs were boarding at the local Pet Lodge. Each dog was in a separate run, all in a single row. One of the employees left the cages unlocked and the dogs have all gotten out of their runs. She needs to put each of them back in the right cage, but this is all she remembers. Help her get them in the right cages, and QUICK!  
  
Dogs: Beau, Duke, Fluffy, Lady, Princess, Rover, and Spike  
  
1. Spike doesn't like other dogs much, so he was on one of the ends.  
  
2. Princess was somewhere to the left of Beau.  
  
3. Rover was in the third run from the right.  
  
4. The only dog between Fluffy and Lady was Princess.  
  
5. Duke was directly to the left of Lady.

1 2 3 4 5 6 7

Duke-Lady-Princess-Fluffy-Rover-Beau-Spike