Unit 6 - Worksheet 01 Array Review & Swapping Elements Name: _____

Consider the following Arrays: int[ ] car = new int[6];
int[ ] plane = {6, 3, 2, 8, 9};

1. Write a standard for-loop that will traverse the ***plane*** array and print the elements all on one line (with a space between them).

2. Write an enhanced for-loop that will traverse the ***plane*** array and print the elements all on one line (with a space between them).

3. Write an enhanced for-loop that will double all the elements in the ***plane*** array.

4. Write a standard for-loop that will fill the ***car*** array with the numbers 3, 4, 5, 6, 7, and 8 (use the loop counter to create them).

5. Write 3 lines of code that could be used to swap the 2 and the 8 in the ***plane*** array.

6. Consider the following method:

```
public static void morph6(int[]a, int b, int c)
{
   int temp = a[b];
   a[b]=a[c];
   a[c]=temp;
}
```

Write a brief summary of what the method ***morph6( )*** does.

For problems #7-13, use the following code:

```
public static void morph1(int[]a)  {
      a[1]=7;
}
public static void morph2(int[]a)  {
      for(int i=0 ; i<a.length ; i++)
      a[i]+=5;
}
public static void morph3(int[]a)  {
     for(int thing : a)
     System.out.println(thing);
}
public static void morph4(int[]a)  {
      for(int i=0 ; i<a.length ; i++)
      a[i]%=2;
}
public static int morph5(int[]a, int b)  {
      return a[b];
}
```

7. What does the morph1( ) method do?

8. What does the morph2( ) method do?

9. What does the morph3( ) method do?

10. What does the morph4( ) method do?

11. What does the morph5( ) method do?

12. If found in the main method, what would the following code do?

```
System.out.print(morph5(plane, 1));
```

13. What is the final value of the ***plane*** array if the following code is run:

```
morph2(plane);
morph1(plane);
morph4(plane);
int sneaky = plane[2];
plane[2]=plane[4];
pane[4]=sneaky;
```

14. Class Writing:

- Create a new JAVA class named ***iCanSwap***.

- Create a new integer array named ***mistakes*** that contains the numbers 2, 7, 5, and 9 (in that order).

- Apparently the creator of the array made a mistake. Add code to your program that swaps the 7 and the 9 in your array (this MUST be done by swapping array elements, not just by printing out a new line of numbers or by setting the array elements equal to 9 and/or 7).

- Add an enhanced for-loop that does the following:

    1. Doubles all numbers before outputting them (note: will not permanently change elements).
    2. Contains an output statement that prints the array elements.
    3. Tracks the sum of all of the doubled numbers (to be outputted later).

- Add output statements (where needed) so that the final output tells the user the array when doubled, the sum of all the doubled numbers, and the original array. If done correctly, the output should look like the following...

    ```
    Final Array:  4  18  10  14
    Sum of #s:  46
    Array is still:  2  9  5  7
    ```

- Insert the ***morph6( )*** method into your class (found on page 1 of this worksheet).

- Add code to your ***iCanSwap*** class that does the following:

    1. Asks the user which 2 elements they would like to swap in the array.
    2. Calls the ***morph6( )*** method and swaps the 2 requested elements.
    3. Write an enhanced for-loop to reprint the new array (to verify the swap was made).

- If done correctly, the final output should look like this ...

    ```
    Final Array:  4  18  10  14
    Sum of #'s:  46
    Array is still:  2  9  5  7

    Pick 2 elements to swap ...
    Enter element 1:                    //user enters 0
    Enter element 2:                    //user enters 2
    New Array:  5  9  2  7
    ```