1) Which of the following is the correct way to create an array of 20 integer values?

   a) int[] array = new int[20];
   b) int[20] array = new int[];
   c) int[20] array = new int[20];
   d) int[] array = new int[];
   e) int[] array = new int(20);

2) Which of these is the correct way to store the value 3 at the beginning of an array called nums?

   a) nums[3] = 0;
   b) nums[0] = 3;
   c) nums[0, 3];
   d) nums[1] = 3;
   e) nums[3] = 1;

3) Which of these lines of code will calculate the last valid index in the array called values?

   a) int last = values.length;
   b) int last = values.length + 1;
   c) int last = values.length - 1;
   d) int last = values.length();
   e) int last = values.length() + 1;

4) Given the following array declaration, draw a memory diagram for the array:

   int[] array = new int[]{1, 5, 7, 8};

5) Using the array from problem 4, draw the state of the array after the following commands (they are cumulative)

   array[1] = 3;

   array[array.length-1] = 4;

   array[array[0]] = array[2];

   array[3]--;
6) What does the following code do for the array {9, 2, 5, -1}? 

```java
int value = 0;
for(int i = 0; i < array.length; i++)
    value += array[i];
System.out.println(value);
```

7) What does the following code for the array {9, 2, 5, -1}? 

```java
int value = 0;
for(int i = 0; i < array.length; i++)
    value += i;
System.out.println(value);
```

8) What does the following code do to the array {1, 3, 0, 2, 4}? 

```java
for(int i = 0; i < array.length; i++)
{
    array[array[i]] = array[i];
}
```

9) You’d like to print out all the values in an array called `scores`.... but the following line of code only generates the following output:

Code:

```
System.out.println(scores);
```

Output:

```
Array@FD123E
```

(This is a real problem with arrays - you can't print out the values in an array by using one printout statement). Write a couple lines of code that would print out all the values of `scores`.

10) Which of the following lines of code will generate an error for an array of ints called `test` with length 6?

- `array[5] = 3;`
- `array[array.length] = array.length - 1;`
- `array[6] = 3;`
- `array[array.length - 1] = array.length;`
- `array[0] = 3;`
- `array[0.0] = 3;`
- `array[-1] = 3;`
- `array[0] = 3.0;`