Unit 10/Recursion Practice

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1. What is returned by the call mystery(4)? 2. What is returned by the call mystery(6)? public static int mystery(int a) public static int mystery(int a) { { if(a==3) if(a>11) return 1; return 5; return a * mystery(a-1); return a + mystery(a+3); } } 3. What is printed by the call mystery(4)? 4. What is returned by the call mystery(4)? public static void mystery(int a) public static void mystery(int a) { { if(a<7) System.out.print(a); mystery(a+2); if(a<7) System.out.print(a); mystery(a+2); } 5. Write a recursive method **evenFactorial** which 6. Write a recursive method **spaceIt** to print the returns the even factorial of a number (that is, the digits of an integer on a single line with 2 spaces product of all positive integers less than or equal to between each digit. So spaceIt(123) prints "1 2 3". n). The factorial of 0 is 1. public static void spaceIt(int m) { public static int evenFactorial(int n) { } } 7. Given the following array how many times would 8. Given the following array how many times a recursive binary search method be called when would a recursive binary search method be called searching for the value 21? when searching for the value 6? int[] array = {3, 6, 8, 11, 14, 16, 21, 22}; int[] array = {0, 1, 2, 3, 4, 5, 7, 8, 9, 9}; 8. What are two features that must be found in every recursive method?

9. Write a non-recursive binary search method that accepts an int array **nums** and an int **target** and returns the index where target is located or -1 if target is not present in the array. Preconditions: int[] nums contains valid data that is sorted and contains at least one element.