Lists, Loops & Traversals — Progress Check

Name: _____ Period: _____ Date: _____

Choose the best answer. Code is AP pseudocode (lists are 1-indexed). One question asks you to select *two* answers.

1. Given `aList ← [11, 22, 33, 44]`, what is `aList[3]`?

(A) 22
(B) 33
(C) 3
(D) 44

2. Starting from `nums ← [5, 10, 15]`, what is `nums` after `APPEND(nums, 20)`?

(A) `[5, 10, 20]`
(B) `[5, 10, 15]`
(C) `[20, 5, 10, 15]`
(D) `[5, 10, 15, 20]`

3. What does `LENGTH([7, 14, 21, 28, 35])` return?

(A) 5
(B) 35
(C) 0
(D) 4

4. What is displayed?

```
total ← 0
REPEAT 3 TIMES
{ total ← total + 4 }
DISPLAY(total)
```

(A) 3
(B) 4
(C) 7
(D) 12

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5. What is displayed?

```
nums ← [1, 2, 3, 4]
sum ← 0
FOR EACH n IN nums
{ sum ← sum + n }
DISPLAY(sum)
```

(A) 10
(B) 4
(C) 24
(D) 1

6. A `REPEAT UNTIL(condition)` loop becomes an *infinite loop* when:

(A) The condition is true before the loop starts
(B) The loop body has more than one statement
(C) The ending condition never becomes true
(D) The list is empty

7. A *linear (sequential) search* finds a value by:

(A) Sorting the list first, then removing duplicates
(B) Checking each element in order until the value is found or the list ends
(C) Jumping to the middle of the list and halving the search each time
(D) Accessing only the last element

8. In App Lab (JavaScript), `var a = [8, 9, 10];` — what is `a[0]`?

(A) 9
(B) 10
(C) 8
(D) There is no index 0

9. Which *two* statements about lists are true?

(Select two answers.)

(A) LENGTH returns the value of the last element
(B) Using a list with a loop is easier to maintain than many separate variables
(C) A list lets multiple related items be treated as a single value
(D) In AP pseudocode, the first element is at index 0

10. Using a list is a form of *data abstraction* because it:

(A) Gives a collection of data a single name without referencing the details of its representation
(B) Guarantees the data has no bias
(C) Encrypts the data in the list
(D) Makes the program run with fewer bits

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