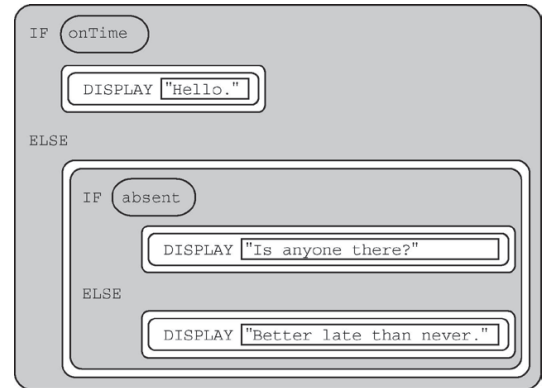**Exercises with Pseudo-Code Unit 3**          **Name _____**

1. Consider the code segment :

If the variables onTime and absent both have values of true, what is displayed as a result of running this code piece?
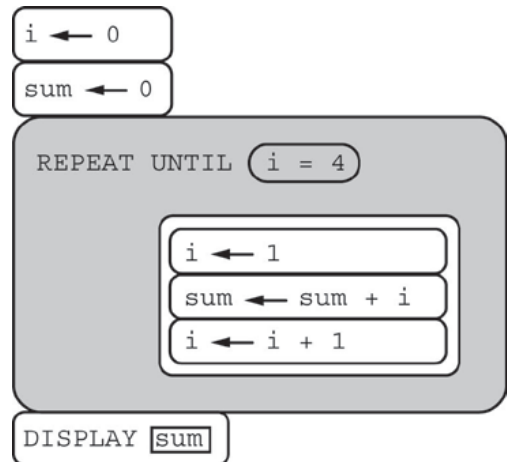
a) Is anyone there?
b) Hello.
c) Hello. Is anyone there?
d) Better late than never.

```
IF ( onTime )
    DISPLAY "Hello."
ELSE
    IF ( absent )
        DISPLAY "Is anyone there?"
    ELSE
        DISPLAY "Better late than never."
```

2. Consider the following code segment.

Which of the following best describes the result of running the program code?

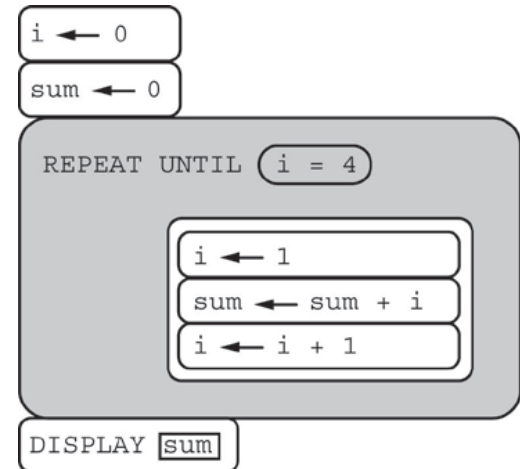(A) The number 2 is displayed.
(B) The number 4 is displayed.
(C) The number 6 is displayed.
(D) Nothing is displayed; the program results in an infinite loop.

```
i ← 0
sum ← 0
REPEAT UNTIL ( i = 4 )
    i ← 1
    sum ← sum + i
    i ← i + 1
DISPLAY sum
```

3. Consider the following code segment.

Which of the following best describes the result of running the program code?

(A) The number 1 is displayed.
(B) The number 6 is displayed.
(C) The number 10 is displayed.
(D) Nothing is displayed; the program results in an infinite loop.

```
i ← 0
sum ← 0
REPEAT UNTIL ( i = 4 )
    i ← 1
    sum ← sum + i
    i ← i + 1
DISPLAY sum
```

4. What range of numbers is printed by this code segment?

```
a ← 3
b ← 10
x ← RANDOM( a, b )
```

a) 3 through 10      b) 4 through 9      c) 3 through 9      d) 0 through 10

5. Which of the following replacements for <missing condition> will result in sum being larger than 10 upon completion of the loop?

```
sum ← 0
num ← 5
REPEAT UNTIL ( <missing condition> ) {
      sum ← num + sum
      num ← num + 2
}
```

A.  num > 8             B.  num > 9             C.  num > 10             D.  num > 20

6. What is sum holding at the end of this segment?

```
      sum ← 0
      num ← 1
      REPEAT 5 TIMES {
            sum = sum + num
            num = num + 1
      {
```

A. 5                    B. 10                   C. 15                   D. 21

7. What is num holding at the end of this segment?

```
      sum ← 0
      num ← 1
      REPEAT 5 TIMES {
            sum = sum + num
            num = num + 1
      {
```

A. 0                    B. 1                    C. 6                    D. 5

8. Which of the following replacements for <missing condition> will result in the loop body never running at all?

```
num ← 8
REPEAT UNTIL ( <missing condition> ) {
      num ← num + 3
}
```

A.  num > 3                         B.  num > 8
C.  num = 8                         D.  num = 15

9. Which of the following replacements for <missing condition> will result in an infinite loop?

```
num ← 0
REPEAT UNTIL ( <missing condition> ) {
      num ← num + 3
}
```

A.  num > 8             B.  num = 3             C.  num < 8             D.  num = 11