

True/False

1. Dim intList As Integer declares & reserves memory for an array of integers. FALSE
2. A method must be passed at least one parameter. FALSE
3. The Enabled property can be used with menu commands. TRUE
4. The Close method is used to make a message box disappear. FALSE
5. An array is a type of method. FALSE
6. The scope of a variable declared outside of the methods on a form is wider than that of a local variable. TRUE
7. A form has a method named KeyClick that executes when the user presses a key on the keyboard. FALSE
8. The statement intNum += 3 causes three to be added to the original value of the variable intNum. TRUE

For the following set of questions indicate True or False depending on whether syntax errors are present. Do not consider logic errors. Remember that a syntax error is an error that prevents VB from executing a statement or line of code. You can assume that variables or objects with a VB prefix are of the specified data type and that they were declared or created properly.

9. There are no syntax errors in the statement: Dim (5)intMyList As Integer FALSE
10. There are no syntax errors in the statement: Const MAX As Integer = 500 TRUE
11. There are no syntax errors in the statement: InputBox("Enter a number: ") = intUserNum FALSE
12. There are no syntax errors in the statement: For intCounter = 1 To 4 TRUE
13. There are no syntax errors in the statement: picRectangle.Top = 500 TRUE

Determine the Output – Write your answers on the answer sheet that has been provided.

Trace the following code segments and answer the following questions. If a final answer is a string, make sure that you surround the answer with double quotes ("John-bDoe"). Represent blank spaces as the letter b with a slash through it (b). If you believe an error exists, explain it as carefully and thoroughly as possible. Assume that all variables and objects referred to in each code segment have been declared or created with any default values normally supplied by Visual Basic.

```
For J = 0 To 5
    intSum = intSum + J
Next
```

intSum J

14. What is the final value of intSum? 15
15. What is the final value of J? 6

```
Dim intTotal As Integer = 0
Dim intNumbers() As Integer = {12, 10, 8, 32, 64, 9}
```

J intTotal

```
For J = 0 To 4
    If (intNumbers(J) > 10) Then
        intTotal += intNumbers(J)
    Else
        intNumbers(J) = 0
    End If
```

Next

16. What is the final value of the variable `intTotal`? 108
17. What is the final value of the variable `intNumbers(2)`? 0
18. What is the final value of the variable `intNumbers(3)`? 32
19. What is the final value of the variable `intNumbers(5)`? 9
20. If `strName = "Wyomissing"`, what is `strName.Substring(3, 1)`? "m"
21. If `strName = "Wyomissing"`, what is `strName.Length()`? 10
22. If `strName = "Wyomissing"`, what is `strName.IndexOf("m")`? 3

Write Code - Write Visual Basic code that fulfills the following tasks. You must use any variable and object names that are specified but you may declare additional variables if necessary.

23. Write a declaration statement for an array of strings named `strNames`. The array should be initialized to a size of 10.

```
Dim strNames(10) As String
```

24. Write a statement that assigns a random integer between or including 1 and 10 in the variable `intNum`.

```
intNum = Math.Floor(Rnd() * 10) + 1
```

25. Write a statement that assigns a random integer between or including 11 and 20 in the variable `intNum`.

```
intNum = Math.Floor(Rnd() * 10) + 11
```

26. Write a code segment that uses a loop to search an array named `intList` to determine if the value 5 is stored in any position within `intList`. The array has fifty elements with the subscript positions 0 to 49. If the value 5 is found, display a message box with the phrase "5 was found". You must declare all variables properly.

```
For J = 0 To 49
    If (intList(J) = 5) Then
        MessageBox.Show("5 was found")
    End If
Next
```

27. Write an If statement that detects a collision between a `PictureBox` named `picEnemy` and a horizontal line that goes from (10, 20) to (100, 20).

```
If (picEnemy.Top < 20 And picEnemy.Bottom > 20 And picEnemy.Right > 10 And picEnemy.Left < 100) Then
    MessageBox.Show("Loser")
End If
```

28. Write a For loop that finds the sum of the integers 5 through 10 and stores the final answer in the variable `intSum`. Use the loop variable `J` in the For loop.

```
For J = 5 To 10
    intSum += J
```

Next

29. Write a code segment that uses a While loop to allow the user to input integers into an InputBox until zero is inputted. When the zero is inputted, the loop must end and the code segment must display the total of all the inputted integers in MessageBox.

```
Dim intSum As Integer = 0

While (intNum <> 0)
    intNum = InputBox("Enter a number")
    intSum += intNum
End While

MessageBox.Show(intSum)
```

30. Write a function method named DiceRoll that returns a random integer between or including 1 and 6.

```
Private Function DiceRoll() As Integer
    Return Math.Floor(Rnd() * 6) + 1
End Function
```

31. Write a normal method named Reset that sets the top, left corner of a PictureBox named picPlayer to the (x, y) coordinates of (80, 100).

```
Private Sub Reset()
    picPlayer.Left = 80
    picPlayer.Top = 100
End Sub
```

32. Write out the Hello World program that we studied in the first week of school.

```
Public Class Form1
    Private Sub Form1_Load()
        MessageBox.Show("Hello World")
    End Sub
End Class
```

33. Write out the truth table exactly as we learned this year. Use 1's and 0's rather than the words true and false.

A	B	A And B	A Or B
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	1