

Choose the best answer.

1.) Which concept has to do with strings such as "Mr." and "Minich"?

- A. **Concatenation** B. Boolean logic C. Collision Detection D. Boundary Cases

2.) Which code segment is valid?

- A. `picThing.Right = 100` B. `If (picThing.Bottom >< 100) Then ...`
C. `picThing.Bottom = 0` D. **`If (picThing.Right + 10 > 100) Then ...`**

3.) A line formed by the endpoints (10, 10) and (100, 100) is a _____.

- A. vertical line. B. horizontal line. C. diagonal line with positive slope. D. **diagonal line with negative slope.**

4.) The _____ method executes at regular intervals of time.

- A. `KeyDown` B. `MouseClicked` C. `Form_Load` D. **`Timer_Tick`**

5.) In which direction will the statement `picPlayer.Left -= 5` animate `picPlayer`?

- A. to the right B. **to the left** C. up the screen D. down the screen

6.) Once you have initially placed a label on a form, you generally can reposition it during _____ time.

- A. **design** B. run C. interface D. none of the above

7.) The _____ method can be used to display a form.

- A. `Hide` B. `Visible` C. `Display` D. **`Show`**

8.) The form that the user will review to see what version of a program he/she is using is the _____.

- A. form named `Form1` B. **about form** C. directions form D. module

9.) Which of the following is true?

- A. `Math.Floor(3.5) = 4`
B. You can play a wav audio file with the `TextToSpeech` function.
C. **You can use a module variable in any method of a form.**
D. Both B and C are true.

10.) The statement `num -= 3` is equivalent to which of the following statements?

- A. **`num = num - 3`** B. `num - 3 = num` C. `num -- 3` D. `num - 3`

11.) The abbreviation RGB refers to the color model used by programmers to create a custom color by mixing shades of _____.

- A. red, green, and brown B. red, gray, and blue C. **red, green, and blue** D. red, gray, and brown

12.) A `Timer` object can be used to animate the following types of objects except:

- A. `PictureBox` B. **`Menu`** C. `Label` D. `Button`

- 13.) A Timer's _____ method can be used to activate the Timer.
 A. Interval B. Modal C. **Start** D. Enabled
- 14.) It is good style to store _____ files used in a VB program in the project's Resources folder.
 A. **graphic** B. header C. metadata D. interface sketch
- 15.) A _____ can be passed to a function.
 A. message box B. method C. module D. **parameter**
- 16.) A _____ is often used to cause a While loop to exit.
 A. **flag variable** B. global variable C. call statement D. return value
- 17.) Visual Basic can convert text into a spoken voice using the concept of _____.
 A. Siri B. Form_Load C. Words to Speech D. **Text to Speech**

Simplify the exercises below based on the following variables.

x1 = 9 x2 = 170 y1 = 120 y2 = 200 a = 3 b = 10
 side1 = 3 side2 = 4 num = -15 price = 11.50 distance = 12.5 c = 2

_____15_____ 18.) Math.Abs(num)

_____3_____ 19.) Math.Sqrt(x1)

_____12_____ 20.) Math.Round(price + 0.5)

_____170_____ 21.) Math.Max(x1 * 9, x2)

_____11_____ 22.) Math.Floor(distance - 0.6)

_____8_____ 23.) Math.Pow(c, a)

_____30_____ 24.) Math.Max(y1, y2) - Math.Max(x1, x2)

_____27.5_____ 25.) Math.Floor(distance - num)

```
e.Graphics.DrawLine(blackPen, 100, 0, 100, 150) ' line 1
```

26.) Complete the If statement so it detects a collision between picPlayer and Line 1.

```
If (picPlayer.Top ___ < 150 ___ And picPlayer.Bottom ___ > 0 ___ And picPlayer.Right ___ > 100 ___ And picPlayer.Left ___ < 100 ___) Then  
    MessageBox.Show("collision")  
End If
```

Write a Statement or Code Segment – Write Visual Basic code that fulfills the following tasks. You must use any specific variable and object names given in the exercise.

27.) Write a statement that would be used to play a wav audio file named “gong.wav”.

```
PlaySound("gong.wav", 0, 1)
```

28.) Complete the Tick method for a Timer named tmrEnemy so that picEnemy moves across the form from top to bottom and wraps around so that when it goes off the bottom edge of the screen it wraps in on the top edge. Assume the form has a height of 300 pixels.

```
Private Sub tmrEnemy_Tick(. . .)  
  
    picEnemy.Top += 5  
  
    If (picEnemy.Bottom > 300) Then  
        picEnemy.Top = 0  
    End If  
  
End Sub
```

29.) Write an If statement that turns off a Timer named tmrEnemy and hides the current form when the variable timeOfGame is less than or equal to zero.

```
If (timeOfGame <= 0) Then  
    tmrEnemy.Stop()           ' or tmrEnemy.Enabled = False  
End If
```

30.) Write a single If Else statement that performs the following tasks. If the variable num is evenly divisible by 3, display the number "3" in a message box. But if the variable num is not evenly divisible by 3 then display the word "NO" in a message box.

```
If (num Mod 3 = 0) Then  
    MessageBox.Show("3")  
Else  
    MessageBox.Show("NO")  
End If
```

31.) Write a statement that uses the Rnd function to compute and store a pseudorandom integer between or including 4 and 11 in the variable num.

```
num = Math.Floor(Rnd() * 8) + 4
```

32.) Write a line of code that would start a Timer named `tmrDoStuff`.

```
tmrDoStuff.Start() ' or tmrDoStuff.Enabled = True
```

33.) Write a complete method named `EndGame` that can be used in any program to properly end (i.e. exit) the program.

```
Private Sub EndGame()  
    Application.Exit()  
End Sub
```

34.) Write out the Hello World program.

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

35.) Complete the truth table using the correct column headings and 1's and 0's in the correct order.

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

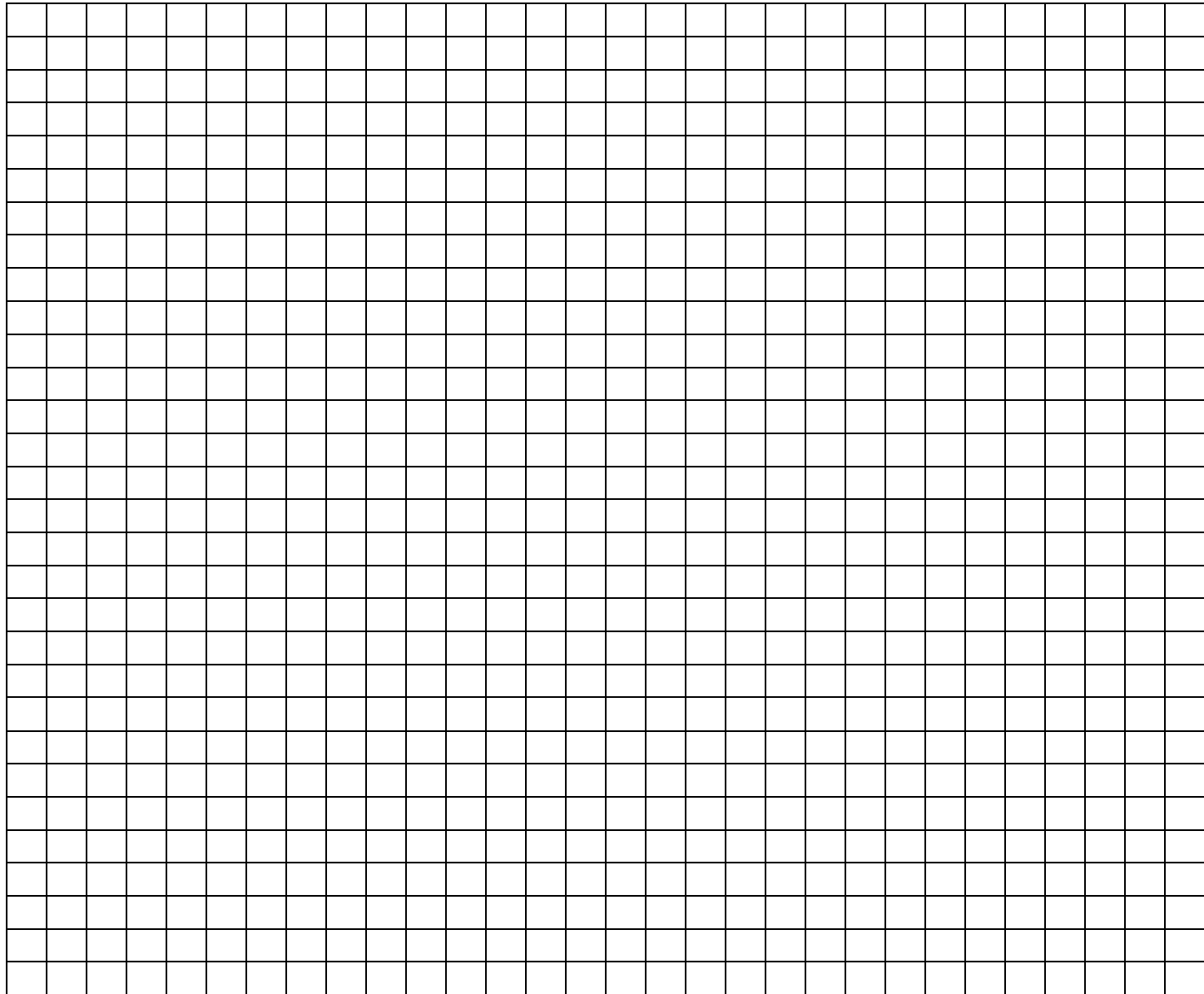
36.) On the next page neatly sketch the designs formed by the following code. **Label the endpoints of the line segments.**

```
e.Graphics.DrawLine(Pens.Black, 10, 150, 100, 150)
```

```
e.Graphics.DrawRectangle(Pens.Black, 20, 20, 100, 100)
```

```
e.Graphics.DrawEllipse(Pens.Black, 20, 20, 100, 100)
```

Number 34 continued



Find and correct the errors in the following code segment. Errors include coding style, spacing, documentation (comments), and incorrect logic. You can assume that all lines starting with `Private Sub` are correct.

```
'Moves Player through maze
Private Sub Form1_KeyDown(...)
    If (e.KeyCode = Keys.Right Or e.KeyCode = Keys.D Or e.KeyCode = Keys.NumPad6) Then      'moves Right
        picPlayer.Left -= 5
    If (e.KeyCode = Keys.Left Or e.KeyCode = Keys.A Or e.KeyCode = Keys.NumPad4) Then      'moves Left
        picPlayer.Left += 5
    If (e.KeyCode = Keys.Down Or e.KeyCode = Keys.X Or e.KeyCode = Keys.NumPad2) Then      'moves Down
        picPlayer.Top += 5
    Else (e.KeyCode = Keys.Up Or e.KeyCode = Keys.W Or e.KeyCode = Keys.NumPad8) Then      'moves Up
        picPlayer.Bottom -= 5
    End If

End Sub

Private Sub btnGameOver_Click(...)
    App.End()
End Sub

Private Sub btnReset_Click(...)
    ResetGame()
End Sub

Private Sub GameReset()
    picPlayer.Right = 5
    picPlayer.Bottom = 155
End Sub

End Class
```

1. Replace `App.End()` with `Application.Exit()`
2. Replace `ResetGame()` with `GameReset()`
3. Replace `picPlayer.Right = 5` with some variation of `picPlayer.Left = 5`
4. Replace the first occurrence of `picPlayer.Bottom` with `picPlayer.Top`
5. Replace the second occurrence of `picPlayer.Bottom` with `picPlayer.Top`
5. Replace `'moves Right` with `'moves Left`
6. Replace `'moves Left` with `'moves Right`
7. Replace `Keys.X` with `Keys.S`
8. Replace the 2nd and 3rd `If` with `ElseIf`
9. Remove the `Else` with `Else If`
10. Add a blank line above the first `If`