TRUE/FALSE

1. A control's Visible property cannot be modified in code.

    ANS: F

2. When you use the *Properties* window to change a control's Visible property at design time, the control will become invisible in the *Designer*.

    ANS: F

3. When a method executes, the statements in the method always execute in the order that they appear, from the beginning of the method to the end.

    ANS: T

4. Comments are short notes intended for the compiler to read and interpret.

    ANS: F

5. If you double-click an error message in the *Error List* window, the code editor will highlight and display the line of code that caused the error.

    ANS: T

6. The appearance and other characteristics of a GUI object are determined by the object's properties.

    ANS: T

7. Changing a form's Text property will change the form's name.

    ANS: F

8. When you create Button controls, they are automatically given default names such as `button1`, `button2`, and so forth.

    ANS: T

9. A control's name should reflect the purpose of the control.

    ANS: T

10. C# identifiers can contain spaces after the first character.

    ANS: F

11. The only way to run a program in Visual Studio is to click the *Start Debugging* button on the toolbar.

    ANS: F

12. C# source code files always end with the `.cs` extension.

    ANS: T

13. It is important that you do not modify the contents of the `Form1.cs` file because doing so will prevent the application from executing.

    ANS: F

14. Each opening brace (`{`)of a code container must have a matching closing brace (`}`) later in the program.

    ANS: T

15. When an event handler is generated for a control by Visual Studio, it doesn't do anything until you add your own code.

    ANS: T

16. Ending a programming statement with a semicolon is not required in C#.

    ANS: F

17. In C# string literals can be enclosed in double quotes, single quotes, or a combination.

    ANS: F

18. In a C# application, all buttons on a form must share the same Click event handler in the form's source code file.

    ANS: F

19. A Label control's Text property is initially set to the same value as the Label control's name.

    ANS: T

20. The assignment operator assigns the value that appears on its left side to the item that appears on its right side.

    ANS: F

MULTIPLE CHOICE

1. Which of the following is *not* a legal C# identifier?
    a. `_calculateTotalButton`
    b. `printSalesReportButton`
    c. `clear_all_the_customer_names_button`
    d. `1stPlayerStartButton`

    ANS: D

2. Which of the following Button control names is a legal C# identifier?

a. `_DisplayOption5Button`
b. `Exit!Button`
c. `*Clear*Button*`
d. `delete Record Button`

ANS: A

3. The _____ shows a description of an error, the name of the source code file containing the error, the error's line number and column number, and the name of the project.

a. *Debug* dialog box
b. *Crash* pop-up
c. *Error List* window
d. *Just In Time* debugger

ANS: C

4. To close an application's form in code, use the _____ statement.

a. `me.Quit();`
b. `this.Close();`
c. `form.Exit();`
d. `app.Stop();`

ANS: B

5. When you enter a statement into the code editor, Visual Studio analyzes it and, if a syntax error is found, it is _____.

a. automatically corrected
b. underlined with a jagged line
c. crossed out
d. highlighted

ANS: B

6. The _____ file contains an application's start-up code which executes when the application runs.

a. `Main.cs`
b. `Code.cs`
c. `Program.cs`
d. `Source.cs`

ANS: C

7. A _____ is a declared block in a program between braces (`{...}`) that holds classes.

a. method
b. program
c. namespace
d. list

ANS: C

8. A(n) _____ is a logical container in a program that holds methods and other program elements.

a. event
b. program
c. queue
d. class

ANS: D

9. The _____ directives that appear at the top of a C# source code file indicate which namespaces the program will use.

a. `include`
b. `namespace`
c. `public`
d. `using`

ANS: D

10. If you want your code to execute a method, write a statement known as a(n) _____.

a. event handler
b. executor statement
c. initialization routine
d. method call

ANS: D

11. Which of the following statements correctly displays the text `Hello` in a message box?

   a. `Messagebox("Hello")`
   b. `MessageBox.Show("Hello");`
   c. `msgBox(Hello);`
   d. `msgBox.show(Hello)`

ANS: B

12. The file named _____ contains code associated with a form named `Form1`.

   a. `Form1.cs`   c. `Control.cs`
   b. `MainForm.cs`   d. `Window.cs`

ANS: A

13. When you select an object in the Visual Studio *Designer*, the object's size, color, text, and other characteristics are displayed in the _____ window.

   a. *Designer*   b. *Editing*   c. *Object*   d. *Properties*

ANS: D

14. The Visual Studio _____ window shows a scrollable list of controls that you can add to a form.

   a. *Collection*   b. *Bank*   c. *Toolbox*   d. *Shelf*

ANS: C

15. When a piece of data such as `23` or `Hello` is written into a program's code, it is called a _____.

   a. constant   b. sentinel   c. value   d. literal

ANS: D

16. A(n) _____ is a sequence of one or more programming statements that perform some operation.

   a. algorithm   b. method   c. class   d. namespace

ANS: B

17. A(n) _____ is a method that executes when a specific event such as clicking the mouse takes place while an application is running.

   a. action sequencer   c. event handler
   b. feature coordinator   d. incident manager

ANS: C

18. A(n) _____ event occurs on a control when the user clicks the mouse while an application is running.

   a. Action   b. Click   c. Live   d. Mouse

ANS: B

19. When you want to display text on a form but not allow the user to change the text, you use a _____ control.

a. String   b. Label   c. Text   d. Font

ANS: B

20. A _____ property can be set to one of two possible values: `true` or `false`.

a. Boolean   b. Binary   c. Singular   d. Toggle

ANS: A

21. In code you use a(n) _____ to store a value in a control's property.

a. string literal
b. assignment statement
c. dialog box
d. constant

ANS: B

22. When a(n) _____ appears around an object in the Visual Studio *Designer*, it indicates that the object is selected and ready for editing.

a. sizing handle
b. editing icon
c. bounding box
d. frame

ANS: C

23. _____ allow you to resize a selected object in the Visual Studio *Designer* by clicking and dragging the mouse when the mouse cursor becomes a two-headed arrow.

a. Bounding boxes
b. Sizing handles
c. ToolTips
d. Properties

ANS: B

24. Which of the following statements would display the number `25` in a Label control named `outputLabel`?

a. `outputLabel.Text = 25;`
b. `outputLabel.Text = "25";`
c. `outputLabel(25);`
d. `outputLabel = "25";`

ANS: B

25. Which of the following statements would clear the text displayed in a Label control named `cityLabel`?

a. `cityLabel.Text = "empty";`
b. `cityLabel.Text = "none";`
c. `cityLabel.Text = "clear";`
d. `cityLabel = "";`

ANS: D

26. Assuming an application has a PictureBox control named `profilePictureBox`, which of the following assignment statements will hide the PictureBox from the user at runtime?

a. `profilePictureBox.Visible = False;`
b. `profilePictureBox.Visible = false;`
c. `profilePictureBox.Visible = True;`

d. `profilePictureBox.Visible = true;`

ANS: B

27. Once you have created a PictureBox control, you use its _____ property to specify the image it will display.

a. Picture   b. Image   c. Source   d. Display

ANS: B

28. _____ is a term that refers to an image's width to height ratio.

a. Area
b. Bounding box

c. Aspect ratio
d. UV map

ANS: C

29. _____ are short notes placed in a program's source code that explain how the program works.

a. Sketches
b. Tags

c. Comments
d. Labels

ANS: C

30. A(n) _____ appears on one line in a program and begins with two forward slashes (//).

a. line comment
b. short comment

c. block comment
d. documentation comment

ANS: A

31. Which of the following are used by professional programmers to embed extensive documentation in a program's source code?

a. line comments
b. block comments

c. documentation comments
d. embedded comments

ANS: C

32. The _____ property can be used to change a form's width and height.

a. Area
b. Resolution

c. Size
d. Rectangle

ANS: C

33. Selecting the _____ button in the *Properties* window causes the items in the window to be displayed in logical groups.

a. Grouped   b. Categorized   c. Ordered   d. Type

ANS: B

34. In the design window, you can click and drag a control to a new location when the mouse cursor is positioned inside the control and becomes a _____.

a. two-headed arrow
b. four-headed arrow

c. hand icon
d. scissor icon

ANS: B

35. To delete a control you can select it on a form and press the _____ key.

   a. Delete   b. Z   c. Tab   d. X

   ANS: A

36. A control's _____ property identifies the control in the application's code and in the Visual Studio environment.

   a. Text   b. Source   c. Tag   d. Name

   ANS: D

37. Control names are also known as _____, the same term used for variables in programs.

   a. tags   c. values
   b. identifiers   d. labels

   ANS: B

38. A file that contains program code is called a _____.

   a. source code file   c. C# file
   b. program file   d. cs file

   ANS: A

39. Just as a period marks the end of a statement, a(n) _____ marks the end of a programming statement in C#.

   a. space   b. underscore   c. semicolon   d. dot

   ANS: C

40. When you have a project open in Visual Studio, the time during which you build the GUI and write the application's code is referred to as _____.

   a. prototyping   c. visual planning
   b. design time   d. application progression

   ANS: B