TRUE/FALSE

1. Programming style includes techniques for consistently putting spaces and indentation in a program to help create visual cues.

   ANS: T

2. Both character and string literals can be assigned to a **`char`** variable.

   ANS: F

3. A variable's scope is the part of the program that has access to that variable.

   ANS: T

4. Named constants are initialized with a value and that value cannot change during the execution of the program.

   ANS: T

5. When you call one of the **`Scanner`** class's methods to read a primitive value, such as **`nextInt`** or **`nextDouble`**, and then call the **`nextLine`** method to read a string, an annoying and hard-to-find problem can occur.

   ANS: T

6. A message dialog is a quick and simple way to ask the user to enter data.

   ANS: F

7. The Java API provides a class named **`Math`** that contains numerous methods which are useful for performing complex mathematical operations.

   ANS: T

8. Unlike a console program, a program that uses the **`JOptionPane`** does not automatically stop executing when the end of the **`main`** method is reached.

   ANS: T

9. The **`System.out.printf`** method allows you to format output in a variety of ways.

   ANS: T

10. If you use a **`flag`** in a format specifier, you must write the flag before the field width and the precision.

    ANS: T

MULTIPLE CHOICE

1. Which of the following is a value that is written into the code of a program?

    a. a literal
    b. an assignment statement
    c. an operator
    d. a variable

    ANS: A

2. Which of the following is a named storage location in the computer's memory?

    a. a literal
    b. an operator
    c. a constant
    d. a variable

    ANS: D

3. Which of the following is not a valid Java comment?

    a. `/** Comment one */`
    b. `*/ Comment two /*`
    c. `// Comment three`
    d. `/* Comment four */`

    ANS: B

4. A Java source file must be saved with the extension

    a. `.java`
    b. `.javac`
    c. `.src`
    d. `.class`

    ANS: A

5. Which of the following is not a rule that must be followed when naming identifiers?

    a. After the first character, you may use the letters a-z, A-Z, an underscore, a dollar sign, or the digits 0-9.
    b. Identifiers can contain spaces.
    c. Uppercase and lowercase characters are distinct.
    d. The first character must be one of the letters a-z, A-Z, an underscore, or a dollar sign.

    ANS: B

6. Character literals are enclosed in _____ and string literals are enclosed in _____.

    a. single quotes, double quotes
    b. double quotes, single quotes

c. single quotes, single quotes
d. double quotes, double quotes

ANS: A

7. Variables are classified according to their

a. names
b. values
c. locations
d. data types

ANS: D

8. What is the result of the following expression?

```
17 % 3 * 2 - 12 + 15
```

a. **105**
b. **12**
c. **7**
d. **8**

ANS: C

9. What is the result of the following expression?

```
10 + 5 * 3 - 20
```

a. **-5**
b. **-50**
c. **5**
d. **25**

ANS: C

10. In the following Java statement, what value is stored in the variable **name**?

```
String name = "John Doe";
```

a. **"name"**
b. the memory address where **"John Doe"** is located
c. the memory address where **name** is located
d. **John Doe**

ANS: B

11. What is the value of **z** after the following statements have been executed?

```
int x = 4, y = 33;
double z;
z = (double) (y / x);
```

a. **8.25**
b. **4**
c. **0**
d. **8.0**

ANS: D

12. What output will be displayed as a result of executing the following code?

```
int x = 5, y = 20;
x += 32;
y /= 4;
System.out.println("x = " + x + ", y = " + y);
```

a. **x = 160, y = 80**
b. **x = 32, y = 4**
c. **x = 37, y = 5**
d. **x = 9, y = 52**

ANS: C

13. Which of the following statements will correctly convert the data type, if **x** is a **float** and **y** is a **double**?

a. **x = float y;**
b. **x = <float>y;**
c. **x = (float)y;**
d. **x = y;**

ANS: C

14. Which of the following statements is invalid?

a. **double r = 9.4632E15;**
b. **double r = 9.4632e15;**
c. **double r = 2.9X106;**
d. **double r = 326.75;**

ANS: C

15. To print **"Hello, world"** on the monitor, which of the following Java statements should be used?

a. **System.out.println("Hello, world");**
b. **System Print = "Hello, world";**
c. **SystemOutPrintln('Hello, world');**
d. **system.out.println(Hello, world);**

ANS: A

16. The **boolean** data type may contain which of the following range of values?

a. **-128 to + 127**
b. **true or false**
c. **-2,147,483,648 to +2,147,483,647**
d. **-32,768 to +32,767**

ANS: B

17. Variables of the **boolean** data type are useful for

a. evaluating conditions that are either true or false
b. working with small integers
c. working with very large integers
d. evaluating scientific notation

ANS: A

18. What would be displayed as a result of executing the following code?

```
int x = 578;
System.out.print("There are " +
x + 5 + "\n" +
"hens in the hen house.");
```

a. `There are 583`
   `hens in the hen house.`
b. `There are 5785`
   `hens in the hen house.`
c. `There are x5\nhens in the hen house.`
d. `There are 5785 hens in the hen house.`

ANS: B

19. What would be displayed as a result of executing the following code?

```
final int x = 22, y = 4;
y += x;
System.out.println("x = " + x + ", y = " + y)
```

a. `x = 22, y = 26`
b. `x = 22, y = 4`
c. `x = 22, y = 88`
d. Nothing. There is an error in the code.

ANS: D

20. What would be displayed as a result of executing the following code?

```
int x = 15, y = 20, z = 32;
x += 12;
y /= 6;
z -= 14;
System.out.println("x = " + x +
                   ", y = " + y +
                   ", z = " + z);
```

a. `x = 27, y = 3.333, z = 18`
b. `x = 27, y = 2, z = 18`
c. `x = 37, y = -14, z = 4`
d. `x = 27, y = 3, z = 18`

ANS: D

21. What is the value of **z** after the following code is executed?

```
int x = 5, y = 28;
float z;
z = (float) (y / x);
```

a. `5.6`
b. `3.0`
c. `5.0`
d. `5.60`

ANS: C

22. Which of the following statements correctly creates a **`Scanner`** object for keyboard input?

    a. **`Scanner kbd = new Scanner(System.keyboard);`**
    b. **`Scanner keyboard = new Scanner(System.in);`**
    c. **`Scanner keyboard(System.in);`**
    d. **`Keyboard scanner = new Keyboard(System.in);`**

    ANS: B

23. Which **`Scanner`** class method reads a **`String`**?

    a. **`nextLine`**
    b. **`charAt`**
    c. **`nextString`**
    d. **`getLine`**

    ANS: A

24. Which statement tells the compiler where to find the **`JOptionPane`** class and makes it available to your program?

    a. **`import javax.swing.JOptionPane;`**
    b. **`import Java.Swing.JOptionPane;`**
    c. **`import JOptionPane;`**
    d. **`import javax.JOptionPane;`**

    ANS: A

25. The _____ method is used to display a message dialog.

    a. **`showMessageDialog`**
    b. **`messageDialog`**
    c. **`messageDialogShow`**
    d. **`showDialog`**

    ANS: A

26. The primitive data types only allow a(n) _____ to hold a single value.

    a. class
    b. literal
    c. object
    d. variable

    ANS: D

27. A Java program must have at least one of the following:

    a. a comment
    b. a class definition
    c. a **`System.out.println();`** statement
    d. a variable declaration

    ANS: B

28. A(n) _____ is a dialog box that prompts the user for input.

    a. input box

b. user prompt
c. adaptive dialog
d. input dialog

ANS: D

29. The simplest way to use the **`System.out.printf`** method is

a. with a format string and one format specifier
b. with only a format string and no additional arguments
c. with a format string and one or more format specifiers
d. with only one format specifier and no format string

ANS: B

30. If you want to use the **`System.out.printf`** method to print a string argument , use the _____ format specifier.

a. **`%d`**
b. **`%b`**
c. **`%f`**
d. **`%s`**

ANS: D