

Name\_\_\_\_\_

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) To create a JPanel of the BorderLayout, use \_\_\_\_\_. 1) \_\_\_\_\_
- A) JPanel p = new JPanel().setLayout(new BorderLayout());
  - B) JPanel p = new JPanel(new BorderLayout());
  - C) JPanel p = new JPanel()
  - D) JPanel p = new JPanel(BorderLayout());
- 2) Show the output of the following code? 2) \_\_\_\_\_
- ```
import javax.swing.*;  
  
public class Test {  
    public static void main(String[] args) {  
        JButton jbtOK = new JButton("OK");  
        System.out.print(jbtOK.isVisible() + " ");  
  
        JFrame frame = new JFrame();  
        System.out.println(frame.isVisible());  
    }  
}
```
- A) true, false                      B) false, true                      C) true, true                      D) false, false
- 3) To set a FlowLayout in panel jp, you can use the method \_\_\_\_\_. (Choose all that apply.) 3) \_\_\_\_\_
- A) jp.setLayout(new FlowLayout(FlowLayout.CENTER));
  - B) jp.setLayout(FlowLayout());
  - C) jp.setLayout(new FlowLayout(FlowLayout.CENTER));
  - D) jp.setLayout(new FlowLayout());
- 4) Which of the following are subclasses of java.awt.Component? (Choose all that apply.) 4) \_\_\_\_\_
- A) Helper classes such as Color and Font
  - B) Layout managers
  - C) Container classes
  - D) Swing user interface classes
- 5) Which of the following statements is for placing the frame's upper left corner to (200, 100)? 5) \_\_\_\_\_
- A) frame.setLocation(100, 200)
  - B) frame.setLocation(200, 100)
  - C) frame.setLocation(200, 200)
  - D) frame.setLocation(100, 100)
- 6) The method \_\_\_\_\_ sets the foreground color to yellow in JFrame f. (Choose all that apply.) 6) \_\_\_\_\_
- A) setForeground(Color.yellow)
  - B) f.setForeGround(Color.yellow)
  - C) setForeground(Color.YELLOW)
  - D) f.setForeground(Color.YELLOW)
  - E) f.setForeground(Color.yellow)

- 7) What layout manager should you use so that every component occupies the same size in the container? 7) \_\_\_\_\_  
A) a BorderLayout      B) any layout      C) a GridLayout      D) a FlowLayout
- 8) To specify a font to be bold and italic, use the font style value \_\_\_\_\_. 8) \_\_\_\_\_  
A) Font.BOLD      B) Font.ITALIC  
C) Font.BOLD + Font.ITALIC      D) Font.PLAIN
- 9) Which of the following statements is for terminating the program when closing the frame? 9) \_\_\_\_\_  
A) frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE)  
B) frame.setDefaultCloseOperation(JFrame.TERMINATE\_ON\_CLOSE)  
C) frame.setDefaultCloseOperation(JFrame.STOP\_ON\_CLOSE)  
D) frame.setDefaultCloseOperation(null)
- 10) Can you use the setBackground method to set a back ground color for \_\_\_\_\_? (Choose all that apply.) 10) \_\_\_\_\_  
A) Component  
B) Container  
C) JLabel  
D) JComponent  
E) JButton
- 11) Can you use the setBorder method to set a border for \_\_\_\_\_? (Choose all that apply.) 11) \_\_\_\_\_  
A) Container  
B) JButton  
C) Component  
D) JLabel  
E) JComponent
- 12) What is best to describe the relationship between JComponent and JButton? 12) \_\_\_\_\_  
A) Composition      B) Association      C) Inheritance      D) Aggregation

13) Analyze the following code.

13) \_\_\_\_\_

```
import java.awt.*;
import javax.swing.*;

public class Test {
    public static void main(String[] args) {
        Component c = new JButton("OK");
        JFrame frame = new JFrame("My Frame");
        frame.add(c);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setVisible(true);
    }
}
```

- A) You can only add c to a container because c's type is Component.
- B) You cannot add a Swing component directly to a JFrame using add(c) prior to JDK 1.4, but it is OK in JDK 1.5.
- C) You cannot assign a JButton to a variable of java.awt.Component.
- D) You cannot create a JFrame using new JFrame("My Frame").

14) The default layout out of a JPanel is \_\_\_\_\_.

- A) FlowLayout
- B) None
- C) BorderLayout
- D) GridLayout

14) \_\_\_\_\_

15) \_\_\_\_\_ creates a color object. (Choose all that apply.)

- A) new Color(0, 0, 0)
- B) new Color(1, 2, 3)
- C) new Color(255, 255, 255)
- D) new Color(0, 266, 0)

15) \_\_\_\_\_

16) Which component cannot be added to a container?

- A) JButton
- B) JComponent
- C) JPanel
- D) JFrame

16) \_\_\_\_\_

17) What should you use to position a Button within an application Frame so that the size of the Button is NOT affected by the Frame size?

- A) the East or West area of a BorderLayout
- B) a GridLayout
- C) the center area of a BorderLayout
- D) the North or South area of a BorderLayout
- E) a FlowLayout

17) \_\_\_\_\_

18) The method \_\_\_\_\_ sets the font (Helvetica, 20-point bold) in component C.

- A) c.setFont(Font("Helvetica", Font.BOLD, 20))
- B) c.setFont(new Font("helvetica", BOLD, 20))
- C) c.setFont(new Font("Helvetica", Font.bold, 20))
- D) c.setFont(new Font("Helvetica", Font.BOLD, 20))

18) \_\_\_\_\_

- 19) Which of the following statements are true? (Choose all that apply.) 19) \_\_\_\_\_
- A) Every instance of Component can be added to a container.
  - B) To distinguish new Swing component classes from their AWT counterparts, Swing GUI component classes are named with a prefix J.
  - C) A container such as JFrame is also a component.
  - D) A user interface object such as (button, list) can appear in one container.
  - E) All Swing GUI components are lightweight.

- 20) How many frames are displayed? 20) \_\_\_\_\_

```
import javax.swing.*;
```

```
public class Test extends JFrame {  
    public static void main(String[] args) {  
        JFrame f1 = new Test();  
        JFrame f2 = new Test();  
        JFrame f3 = new Test();  
        f1.setVisible(true);  
        f2.setVisible(true);  
        f3.setVisible(true);  
    }  
}
```

- A) 0.                      B) 3.                      C) 2.                      D) 1.

- 21) Which of the following statements are true? (Choose all that apply.) 21) \_\_\_\_\_
- A) You can obtain a FontMetrics from a Font object using the getFontMetrics() method.
  - B) You can create a FontMetric using new FontMetrics().
  - C) A font determines the font metrics.
  - D) You can obtain the leading, ascent, descent, and height for a font from a FontMetrics object.

- 22) Which of the following statements are true? (Choose all that apply.) 22) \_\_\_\_\_
- A) Once a GUI component is visible, getGraphics() returns the object.
  - B) Each GUI component contains a Graphics object that can be obtained using getGraphics() method.
  - C) The Graphics object is automatically created for each visible GUI component.
  - D) If a GUI component is not visible, getGraphics() returns null.

- 23) The following are the methods to obtain font properties in a FontMetrics object fm. (Choose all that apply.) 23) \_\_\_\_\_
- A) fm.getHeight()
  - B) fm.getLeading()
  - C) fm.getAscent()
  - D) fm.getDescent()

- 24) Which of the following statements are correct? (Choose all that apply.) 24) \_\_\_\_\_
- A) You can set an image on a label, but the image is not resizable.
  - B) You can draw an image on a GUI component using the drawImage method in the Graphics object. This image is resizable.
  - C) You can set an image on a button, but the image is not resizable.

- 25) The header for the `paintComponent` method is \_\_\_\_\_. 25) \_\_\_\_\_  
A) `protected void paintComponent(Graphics g)`  
B) `private void paintComponent(Graphics g)`  
C) `protected void paintComponent()`  
D) `public void paintComponent(Graphics g)`
- 26) Given a `Graphics` object `g`, to draw an outline of a rectangle of width 20 and height 50 with the upper-left corner at (20, 20), you use \_\_\_\_\_. 26) \_\_\_\_\_  
A) `g.drawRect(20, 50, 20, 20)` B) `g.drawRect(20, 20, 20, 50)`  
C) `g.drawRectFill(20, 20, 20, 50)` D) `g.drawRectFill(20, 50, 20, 20)`
- 27) Invoking \_\_\_\_\_ returns the width of the string in a `FontMetrics` object `fm`. 27) \_\_\_\_\_  
A) `fm.getWidth(s)` B) `fm.getHeight(s)`  
C) `fm.getLength(s)` D) `fm.stringWidth(s)`
- 28) The coordinate of the upper-left corner of a frame is \_\_\_\_\_. 28) \_\_\_\_\_  
A) (25, 25) B) (10, 10) C) (100, 100) D) (0, 0)
- 29) Which of the following methods draws a filled 3D rectangle? (Choose all that apply.) 29) \_\_\_\_\_  
A) `g.fill3DRect(50, 50, 20, 30)` B) `g.fill3DRect(50, 50, 20, 30, false)`  
C) `g.fill3DRect(50, 50, 20, 30, true)` D) `g.fill3DRect(50, 50, 20, 30, 1)`
- 30) To repaint graphics, invoke \_\_\_\_\_ on a Swing component. 30) \_\_\_\_\_  
A) `init()` B) `repaint()`  
C) `update()` D) `paintComponent()`
- 31) The method \_\_\_\_\_ sets the background color to yellow in `JFrame f`. (Choose all that apply.) 31) \_\_\_\_\_  
A) `setBackground(Color.yellow)`  
B) `f.setBackGround(Color.yellow)`  
C) `f.setBackground(Color.YELLOW)`  
D) `f.setBackground(Color.yellow)`  
E) `setBackground(Color.YELLOW)`
- 32) Suppose a `JFrame` uses the `GridLayout(0, 2)`. If you add six buttons to the frame, how many columns are displayed? 32) \_\_\_\_\_  
A) 4 B) 2 C) 1 D) 3
- 33) Swing components that don't rely on native GUI are referred to as \_\_\_\_\_. 33) \_\_\_\_\_  
A) GUI components B) heavyweight components  
C) lightweight components D) non-GUI components

34) How many frames are displayed?

34) \_\_\_\_\_

```
import javax.swing.*;

public class Test {
    public static void main(String[] args) {
        JFrame f1 = new JFrame("My Frame");
        JFrame f2 = f1;
        JFrame f3 = f2;
        f1.setVisible(true);
        f2.setVisible(true);
        f3.setVisible(true);
    }
}
```

A) 2.

B) 0.

C) 3.

D) 1.

35) Which color is the darkest?

35) \_\_\_\_\_

A) new Color(20, 0, 0)

B) f.setForeground(Color.yellow)

C) new Color(30, 0, 0)

D) new Color(0, 0, 0)

E) new Color(10, 0, 0)

36) Given a Graphics object g, to draw a polyline to connect points (3, 3), (4, 10), (10, 20), (2, 100), you use \_\_\_\_\_.

36) \_\_\_\_\_

A) g.drawPolyline({3, 4, 10, 2}, {3, 10, 20, 100}, 4)

B) g.drawPolyline(new int[] {3, 4, 10, 2}, new int[] {3, 10, 20, 100}, 4)

C) g.drawPolygon({3, 4, 10, 2}, {3, 10, 20, 100}, 4)

D) g.drawPolygon(new int[] {3, 4, 10, 2}, new int[] {3, 10, 20, 100}, 4)

37) You can draw graphics on any GUI components.

37) \_\_\_\_\_

A) true

B) false

38) Analyze the following code.

38) \_\_\_\_\_

```
import java.awt.*;
import javax.swing.*;

public class Test {
    public static void main(String[] args) {
        JFrame frame = new JFrame("My Frame");
        frame.add(new JButton("OK"));
        frame.add(new JButton("Cancel"));
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(200, 200);
        frame.setVisible(true);
    }
}
```

- A) Only button Cancel is displayed.
- B) Only button OK is displayed.
- C) Both button OK and button Cancel are displayed and button OK is displayed on the left side of button OK.
- D) Both button OK and button Cancel are displayed and button OK is displayed on the right side of button OK.

39) Given a Graphics object g, to draw a filled oval with width 20 and height 30 centered at (50, 50), you use \_\_\_\_\_.

39) \_\_\_\_\_

- A) g.fillOval(40, 35, 20, 30)
- B) g.fillOval(50, 50, 20, 30)
- C) g.fillOval(30, 30, 40, 30)
- D) g.fillOval(50, 50, 40, 30)
- E) g.fillOval(30, 30, 20, 30)

40) You can use methods \_\_\_\_\_ on any instance of java.awt.Component. (Choose all that apply.)

40) \_\_\_\_\_

- A) setLayout
- B) setForeground
- C) setFont
- D) setBackground
- E) getFont