Chapter 12

Section 12.1

12.1 Q1: In the Java coordinate system, the point (0,0) is:
   a. The lower-right corner of the screen.
   b. The upper-right corner of the screen.
   c. The lower-left corner of the screen.
   d. The upper-left corner of the screen.
ANS: d. The upper-left corner of the screen.

Section 12.2

12.2 Q1: Which of the following statements about the Graphics object is true?
   A. The Graphics object is an argument to the applet's update method.
   B. The Graphics object is instantiated by the user.
   C. The Graphics object is the argument to the applet's paint method.
   D. The Graphics class is abstract.
   E. The Graphics object manages a graphics context.
   a. A, C, E.
   b. A, C, D, E.
   c. A, B, D, E.
   d. All are true.
ANS: b. A, C, D, E.

12.2 Q2: The Component method repaint causes
   a. Component method update to be called only.
   b. Component method paint to be called only.
   c. Component method update to be called followed by calling Component method paint.
   d. Component method paint to be called followed by calling Component method update.
ANS: c. Component method update to be called followed by calling Component method paint.

Section 12.3

12.3 Q1: Which of the following are valid Java statements, or groups of statements?
   A. Color c = new Color (0, 255, 0);
   B. Color c = new Color (0.0f, 1.0f, 0.0f);
   C. Color c = new Color (0.0d, 1.0d, 0.0d);
   D. Color c = new Color (0, 255, 0);
   c. setGreen (c.getGreen() - 2);
   a. All of the above.
   b. A, B, C.
   c. A, B, D.
   d. A, B.
ANS: d. A, B.

12.3 Q2: The JColorChooser dialog allows colors to be chosen by all but which of the following?
   a. Swatches.
   b. Hue, saturation, brightness.
   c. Gradient, cycle, brightness.
   d. Red, Green, Blue.
ANS: c. Gradient, cycle, brightness.

Section 12.4

12.4 Q1: Which of the following are valid Font constructors?
   A. Font f = new Font();
   B. Font f = new Font( "Serif", Font.Bold + Font.Italic, 19 );
   C. Font f = new Font( Font.Bold, 20, "SansSerif" );
D. Font f = new Font( 20, Font.Bold, "Monospaced" );
   a. A and B.
   b. B and C.
   c. B.
   d. D.
ANS: c. B.

12.4 Q2: Which of the following is correct for font metrics?
   a. height = descent + ascent + leading.
   b. The amount the character dips below the baseline is the ascent.
   c. The amount the character can be above the baseline is the leading.
   d. The amount the character rises above the baseline is the descent.
ANS: a. height = descent + ascent + leading.

Section 12.5

12.5 Q1: The Java statement:
   g.fillOval( 290,100,90,55 );
   a. Draws a filled oval with its center at coordinates x=290, y=100, with height=90 and width=55.
   b. Draws a filled oval with its left most point at coordinates x=290, y=100, with height=90 and width=55.
   c. Draws a filled oval bounded by a rectangle with its upper left corner at coordinates x=290, y=100, with height=55 and width=90.
   d. Draws a filled oval bounded by a rectangle with its upper left corner at coordinates x=290, y=100, with height 90= and width=55.
ANS: c. Draws a filled oval bounded by a rectangle with its upper left corner at coordinates x=290, y=100, with height 55 and width 90.

12.5 Q2: The Java statement
   g.draw3DRect( 290,100,90,55,true );
   a. draws a rectangle that is raised (the top and left edges of the rectangle are slightly darker than the rectangle).
   b. draws a rectangle that is lowered (the bottom and right edges of the rectangle are slightly darker than the rectangle).
   c. draws a rectangle that is raised (the bottom and right edges of the rectangle are slightly darker than the rectangle).
   d. draws a rectangle that is lowered (the top and left edges of the rectangle are slightly darker than the rectangle).
ANS: c. draws a rectangle that is raised (the bottom and right edges of the rectangle are slightly darker than the rectangle).

Section 12.6

12.6 Q1: Which of the following statements about arcs is not true?
   a. An arc is drawn as a part of an oval.
   b. Arcs sweep from a starting angle the number of degrees specified by their arc angle.
   c. Arcs that sweep clockwise are measured in positive degrees.
   d. None of the above statements are false.
ANS: c. Arcs that sweep clockwise are measured in positive degrees.

12.6 Q2: Which of the following statement draws an arc that sweeps from the top of an oval to the left-most edge?
The oval is twice as wide as high.
   a. g.drawArc( 200, 100, 100, 50, 90, 90 );
   b. g.drawArc( 100, 200, 50, 100, 90, 180 );
   c. g.drawArc( 100, 200, 50, 100, 180, 90 );
   d. g.drawArc( 200, 100, 100, 50, 180, 90 );
ANS: a. g.drawArc( 200, 100, 100, 50, 90, 90 );

Section 12.7

12.7 Q1: Consider the code segment below:
   int xValues[] = { 100, 150, 200, 100 };
   int yValues[] = { 30, 130, 30, 30 };
   g.drawPolyline( xValues, yValues, 4 );
This code segment will draw:

a. A triangle with a corner at its upper most position and an edge at its lowest position.
b. A triangle with an edge at its upper most position and a corner at its lowest position.
c. A V with its corner at the top.
d. A V with its corner at the bottom.

ANS: b. A triangle with an edge at its upper most position and a corner at its lowest position.

12.7 Q2: Consider the Java code segment below:

```java
Polygon poly2 = new Polygon();
poly2.addPoint( 100, 30 );
poly2.addPoint( 100, 130 );
```

Which of the following will create a polygon that is a square?

a. `poly2.addPoint( 200, 30 );`
   ```java
   poly2.addPoint( 200, 130 );
   ```

b. `poly2.addPoint( 200, 130 );`
   ```java
   poly2.addPoint( 200, 30 );
   ```

c. `poly2.addPoint( 130, 30 );`
   ```java
   poly2.addPoint( 130, 130 );
   ```

d. `poly2.addPoint( 130, 130 );`
   ```java
   poly2.addPoint( 130, 30 );
   ```

ANS: b. `poly2.addPoint( 200, 130 );`
   ```java
   poly2.addPoint( 200, 30 );
   ```

Section 12.8

12.8 Q1: Which of the following statements about the Java2D API is not true?

a. A `Graphics2D` object is instantiated to draw Java2D figures.
b. Class `Graphics2D` is a subclass of class `Graphics`.
c. To access `Graphics2D` capabilities, downcast the `Graphics` reference passed to `paint` to a `Graphics2D` reference.
d. All of the above are true.

ANS: d. All of the above are true.

12.8 Q2: The `Graphics2D` method(s) that determine(s) the color and texture for the shape to display is/are:

a. `setStroke();`
b. `setPaint();`
c. `setTexture()` and `setColor();`
d. `setTexturePaint();`

ANS: b. `setPaint();`

12.8 Q3: Which of the following statements is not true?

a. A `BufferedImage` object uses the image stored in its associated `TexturePaint` object as the fill texture for a filled-in shape.
b. Class `BufferedImage` can be used to produce images in color and gray scale.
c. Class `GradientPaint` draws a shape in a gradually changing color.
d. All of the above are true.

ANS: a. A `BufferedImage` object uses the image stored in its associated `TexturePaint` object as the fill texture for a filled-in shape.