1. Complete the code for the applet that produces the image to the left.
```java
import javax.swing.JApplet;
import java.awt.*;
public class Mystery extends JApplet {
    public void paint (Graphics page) {
        page.drawLine (10, 60, 90, 60);
        page.drawLine (40, 40, 70, 0);
        page.drawRect (60, 50, 50, 60);
        page.fillOval (0, 60, 40, 60);
    }
}
```

2. Given a Random object named `gen`, what range of values are produced by the following expressions?
- `gen.nextInt(8)` _______ 0 to 7
- `gen.nextInt(50) + 10` _______ 10 to 59
- `gen.nextInt(8) - 10` _______ -10 to -3

3. Suppose you have the following declarations, evaluate some expressions:
```java
String word = "kitten";
int num = word.length();
```
```java
num _ 6_ word.charAt(1) _ i__
word.charAt(4) _ e_ word.charAt(num-1) _ n_
```

4. Show the output produced:
```java
String hope = "puppy";
int n = 0;
while (n < hope.length())
{
    if(hope.charAt(n)> 's')
        System.out.print(hope.charAt(n) + "*");
    n++;
}
```
```
Output:
u*y*
```
1. Complete the code for the applet that produces the image to the left.
import javax.swing.JApplet;
import java.awt.*;
public class Mystery extends JApplet {
    public void paint (Graphics page) {
        page.drawLine (10, 60, 90, 60);
        page.drawLine (20, 20, 40, 80);
        page.drawRect (0, 40, 60, 40);
        page.fillOval (40, 0, 80, 40);
    }
}

2. Given a Random object named \textit{gen}, what range of values are produced by the following expressions?
\begin{itemize}
    \item \texttt{gen.nextInt(4)} \quad \underline{0 \text{ to } 3}
    \item \texttt{gen.nextInt(20) + 100} \quad \underline{100 \text{ to } 119}
    \item \texttt{gen.nextInt(4) - 15} \quad \underline{-15 \text{ to } -12}
\end{itemize}

3. Suppose you have the following declarations, evaluate some expressions:
\begin{verbatim}
String word = "kitten";
int num = word.length();
\end{verbatim}
\begin{itemize}
    \item \texttt{num \_6\_ word.charAt(1)} \underline{i}
    \item \texttt{word.charAt(4)} \underline{e}
    \item \texttt{word.charAt(num-1)} \underline{n}
\end{itemize}

4. Show the output produced:
\begin{verbatim}
String hope = "someday";
int n = 0;
while (n < hope.length()) {
    System.out.print(hope.charAt(n) + "*");
    n = n + 2
}\end{verbatim}
\begin{center}
\textbf{Output:}\hspace{1cm} s*m*d*y*
\end{center}