

```
<applet code="X.class" width="600" height="1400"></applet>
```

```
public class X extends JApplet{
```

```
    public void init(){
```

```
        Y why = new Y();
```

```
        setContentPane(why);
```

```
    }
```

```
}
```

```
class Y extends JPanel implements _____Q1_____ {
```

```
    CardLayout c;
```

```
    Two duo;
```

```
    public Y(){
```

```
        setBackground(Color.RED);
```

```
        setLayout(new BorderLayout());
```

```
        One un = new One();
```

```
        duo = new Two();
```

```
        JButton b = new JButton ("Big");
```

```
        add(un, BorderLayout.EAST);
```

```
        add(b, BorderLayout.SOUTH);
```

```
        add(duo, BorderLayout.CENTER)
```

```
    }
```

```
    public void paintComponent (Graphics g){
```

```
        super.paintComponent(g);
```

```
    }
```

```
class One extends JPanel implements _____Q2_____ {
```

```
    public One(){
```

```
        setBackground(Color.YELLOW);
```

```
        setLayout(new GridLayout(1, 5, 10, 10));
```

```
        for(int x = 5; x>0; x--){
```

```
            _____Q3_____ //make vertical JScrollbar
```

```
            _____Q4_____ //add vertical JScrollbar to this One JPanel
```

```
    }
```

```

public void paintComponent(Graphics g){
    super.paintComponent(g);
}
}

class Two extends JPanel{
    public Two(){
        c = new CardLayout();
        setLayout(c);
        L = new JLabel("A Label");
        M = new JLabel("B Label");
        _____Q5_____ // add L Label as "card" in the card layout for Two JPanel
        _____Q6_____ // add M Label as "card" in the card layout for Two JPanel
    }
}
}

```

1. Draw a picture of the above (2 pages), assuming all code can be executed (there are no typos). Color, spacing, and dimensions matter, so do a neat job and label colors and components.

2. The code has blanks labeled as below (Q1 to Q5). Fill in what should go in these blanks:

Q1: _____

Q2: _____

Q3: _____

Q4: _____

Q5: _____

// you don't need to show the answer for Q6

3. As soon as ANY Slider is used, a new Label (card) should be revealed. Show the full two lines of code to do this, below. Pseudocode is provided to help you.

// event handler method header in One class

// method to make a new Label (card) revealed

4. Of the components learned in class up until today, what other components use the same listener as the button? You will earn ½ point for each correct component and lose ½ point for any incorrect components listed or missing.

5. Fill in the table, answering each question.

Component	Question	Your answer
Slider	What is the event handler method?	
Radio Button and Check Box	What method returns TRUE if the button or box is filled in / chosen?	
Slider and Scrollbar	If you wanted to find where the knob (movable part) of the scrollbar was, in terms of a number, what method would you use?	
(many)	What type of thing is the argument for getSource()?	