Name_____Per____

Consider the following incomplete code:

```
public  class LayoutEx extends JFrame
{
        public LayoutEx() - sets up an 400 x 400 frame, adds an instance of MainPanel and makes it visible

        public static void main( String [] args)
        {
                LayoutEx layoutEx = new LayoutEx ();
        }
}
class MainPanel extends JPanel implements…
{
        MainPanel()
        {
                setBackground(Color.RED);
                setLayout(new GridLayout(1, 4, 10, 20));
                Panel1 one = new Panel1 ();
                Panel1 two = new Panel1();
                Panel2 three = new Panel2();
                JPanel four = new JPanel();
                add(one);
                add(two);
                add(three);
                add(four);
        }
        …
}
                                        //Remember, the following is an example.  You pick meaningful names. ☺
class Panel1 extends JPanel implements…
{
        Panel1()
        {
                setBackgound(Color.CYAN);
                setLayout(new BorderLayout());
                …
                add(buttonInstance, BorderLayout.NORTH);      //labeled "GO"
                add(verticalSliderInstance, BorderLayout.WEST);
                add(textAreaInstance, BorderLayout.CENTER);    //created w/ param.s 4, 10
        }
        …
}

class Panel2 extends JPanel implements…
{
        Panel2()
        {
                setBackground(Color.YELLOW);
                …
                add(textFieldInstance);                 //created with param. 10
                add(buttonInstance);                            //labeled "Press"
        }
        …
}
```

Some Questions…

1. How man programmer-defined classes are there? (circle one)
   One two three four five

2. How many programmer-defined constructors are there? ___

3. After "implements" should be some key words. Write in what should be implemented- only the bare minimum please- for each of the following.
   MainPanel implements _____
   Panel1 implements _____
   Panel2 implements _____

4. There are some great advantages to breaking up code (like this example shows) into multiple classes. Describe at least TWO obvious advantages to this.

a.

b.

c.

5. What is the appearance of this frame? See constructor for dimensions. Accurately draw it below, marking details like labels of button, size of text input/output components, and colors.