

Engineering Design Semester 1 Final Review:

1. Construct an assembly of my scotch tape dispenser in Onshape to the best of your abilities. Add a notch to the tape roll so we can see it rotate. There should be 3 separate part files, one assembly, and one drawing file. The drawing should contain at least 3 different view tools.
2. Complete the table below:

Component Name:	What does this component do?	How does it work?
Potentiometer		
DC Motor		
Servo		
Transistor		

Flyback Diode		
Relay		
Shift Register		
Capacitor		

GCode Questions:

3. In the Gcode below, explain the function of each line of code that has an arrow.

```
G20
G90
G0 X0 Y0 Z5
M0
M3 S5000
M0

G1 X0 Y0 Z-2
G2 X0 Y-100 i0 j-50
G1 X0 Y0
G0 Z5
G0 X10 Y-10 Z5
G1 Z-2
G2 X10 Y-90 i-10 j-40
G1 X10 Y-10
G0 Z5
G0 X0 Y0 Z5

M5
```

4. Describe, in detail, or draw with dimensions the shape created by the Gcode above.

5. Clearly explain the difference between G90 and G91 (Don't just say their names).

6. Clearly explain the difference between G0 and G1. Why do we need them both?

7. Clearly explain the difference between G2 and G3.