

Quiz #4

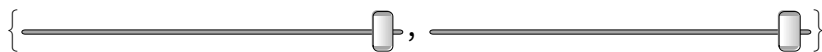
Math 213W: Math with Mathematica

Your Name Here:

For this quiz, you have access to your tutorials and the internet, but you may not send information to or receive information from a classmate.

1. (10 pts) Explain in a paragraph why the following two sliders act differently.

```
{Slider[Dynamic[x]], Dynamic[Slider[x]]}
```



2. (10 pts) Write one or more lines of code that creates a button whose label changes between True and False each time you click it.

3. (10 pts) Write one or more lines of code whose output updates dynamically with the SUM of the x- and y- coordinate of the position of the mouse's cursor.

4. (10 pts) Below is the *Mathematica* input and output for someone hoping to create an interactive `Manipulate` command in which two different control inputs (A setterbar and a slider) dynamically modify the same input variable. The input variable is an integer between 2 and 10 and the output is supposed to be its square. What went wrong? And how should the code be modified to give the desired output?

```
Manipulate[x^2, {Dynamic[x], 2, 10, 1, ControlType -> Setter},
  {Dynamic[x], 2, 10, ControlType -> Slider2D}]
```

```
Manipulate::vsform : Manipulate argument {3, 2, 10, 1, ControlType -> Setter} does not have the correct form for a variable specification. >>
```

```
Manipulate::vsform : Manipulate argument {3, 2, 10, ControlType -> Slider2D} does not have the correct form for a variable specification. >>
```

```
Manipulate[x^2, {3, 2, 10, 1, ControlType -> Setter}, {3, 2, 10, ControlType -> Slider2D}]
```