

## Equations in Excel

To start with it's important to realize that you can make any equation you want to in Excel. That being said, there are some formulas already set up for you. Some basic ones you may use are Sum, and Average, but there are many more than I could describe on a one by one basis. Here's the basic format for the formulas.

You would type:

```
=Sum(A2:A8)
```

if you wanted the sum of all the values between A2 and A8 including them both. Basically you use the starting and ending cells from your range and separate them with a colon.

If you wanted the sum of say just A2, A5, and A8, not the numbers between them, you would type:

```
=Sum(A2,A5,A8).
```

This works for any number of selections, which are separated by commas. You can include ranges with this method as well.

```
le- =Sum(A2:A5,A8,A13:A21).
```

The same formatting is true for Averaging. You can use ranges with colons, individual selections with commas, or a combination of the two. It is important to know that if one of the cells selected is empty it will not be averaged in. If you want it to be a 0 you must enter the 0. If there is no data yet in any of the cells selected and you are just setting it up for future use it will say:

```
#DIV/0!
```

Don't worry about it. Once you enter the data that will leave. Right now your equation is asking the computer to add up all those numbers and divide by how many numbers it added up. This leaves it to divide by 0 which is an illegal operation in Mathematics.

If you want to do something for which there is no set formula, you can write your own. For example if you wanted to do a weighted average, HW is worth 10%, Participation worth 10%, Quizzes worth 30%, and Tests worth 50%, you could write your own equation like so:

```
=A8*.1+A13*.1+A18*.3+A21*.5
```

Where A8 is where your homework average is, A13 is where your participation average is, A18 is where the Quiz average is, and A21 is where the test average is. Each of these cells you have used in your equation could be an equation themselves. It doesn't matter. In this case they probably would be. See the video tutorial for practical use examples and how to copy the equation effectively into more areas.