Global Variables and Equations, updated for SOLIDWORKS 2020

Topics Covered: Accessing Equations, Adding variables and equations via the Equations dialog box, Adding variables and equations on the fly via a dimensioning dialog box.

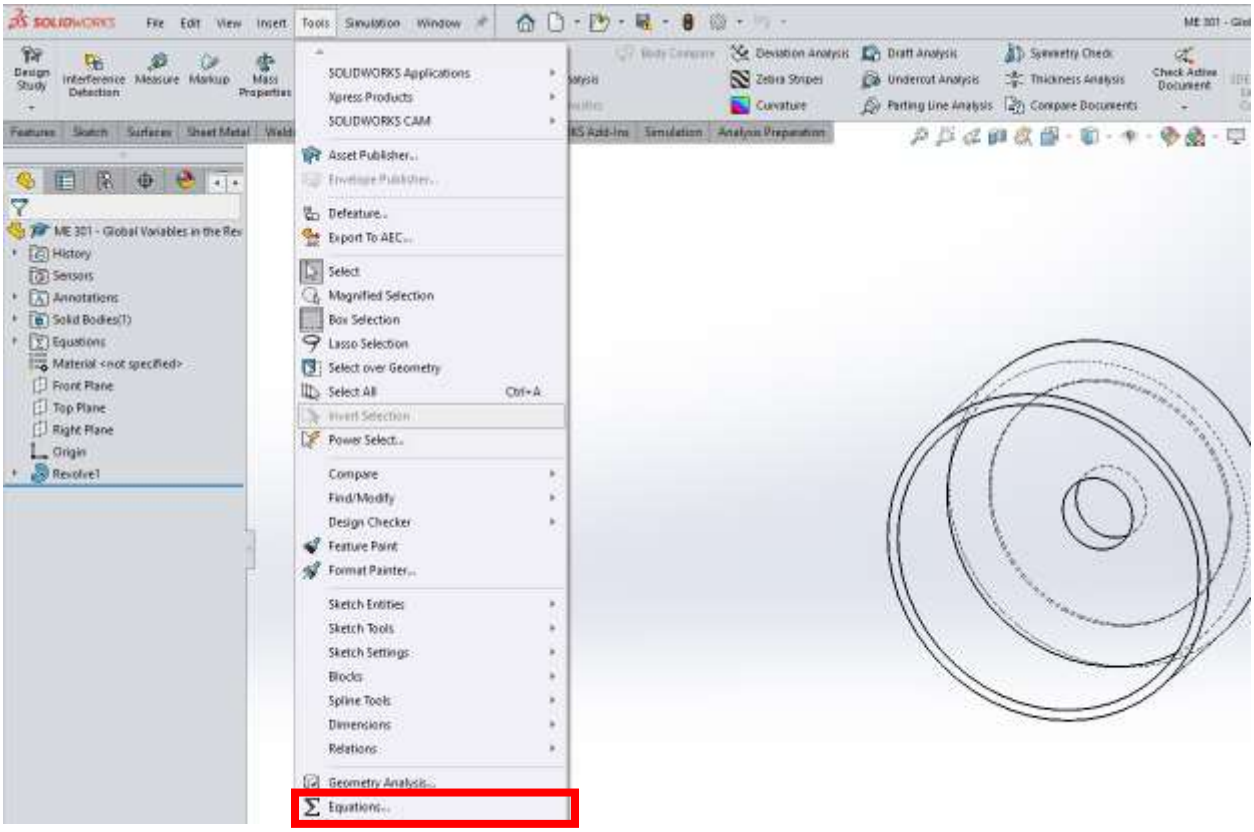
Use when making:

- Parts that will have similar geometries but different sizes
- Parts that have strange geometry but will need modification in the future

Why use global variables and equations?

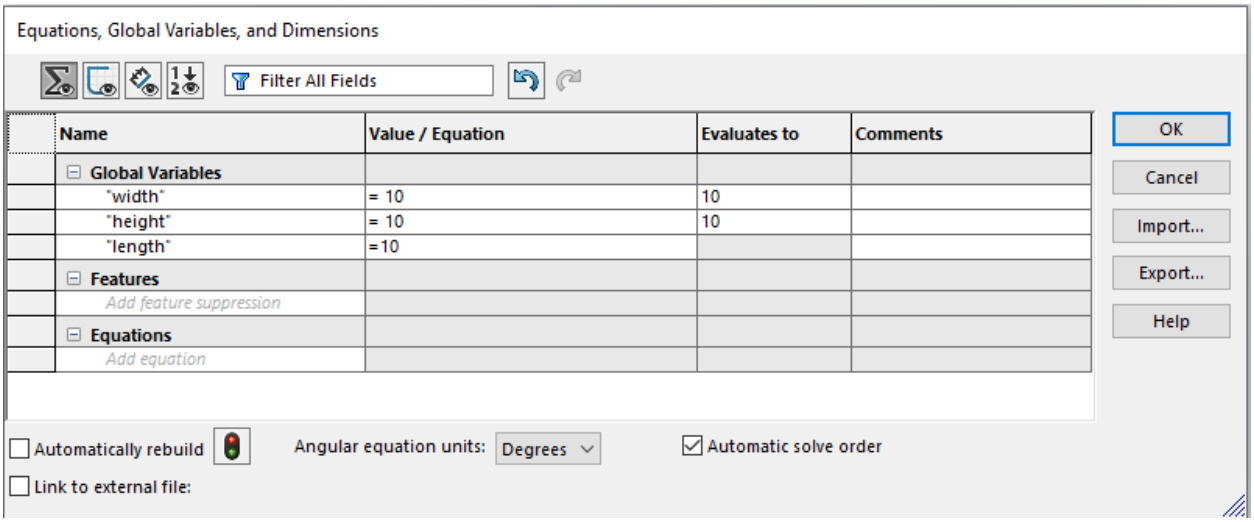
- Can make dimensions easier to be understood
- Can make parts very easy to edit
- Easy method to implement driving equations behind functionality

You can find Global Variables and Equations in **Tools -> Equations**

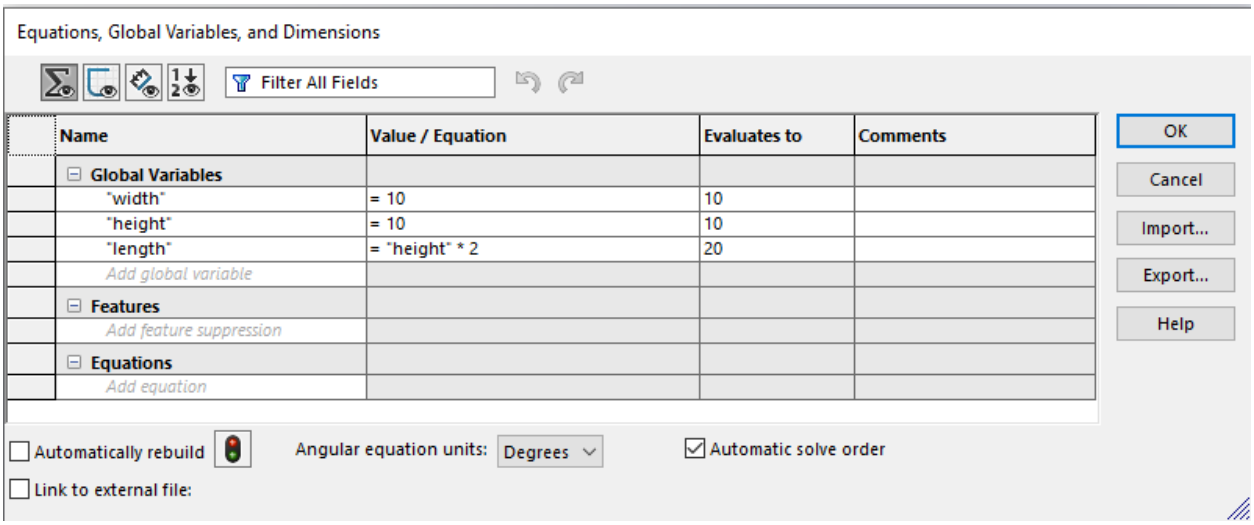


Setting up Global Variables and Equations:

1. For Global Variables, enter name and value – use relevant names, not just letters, generally

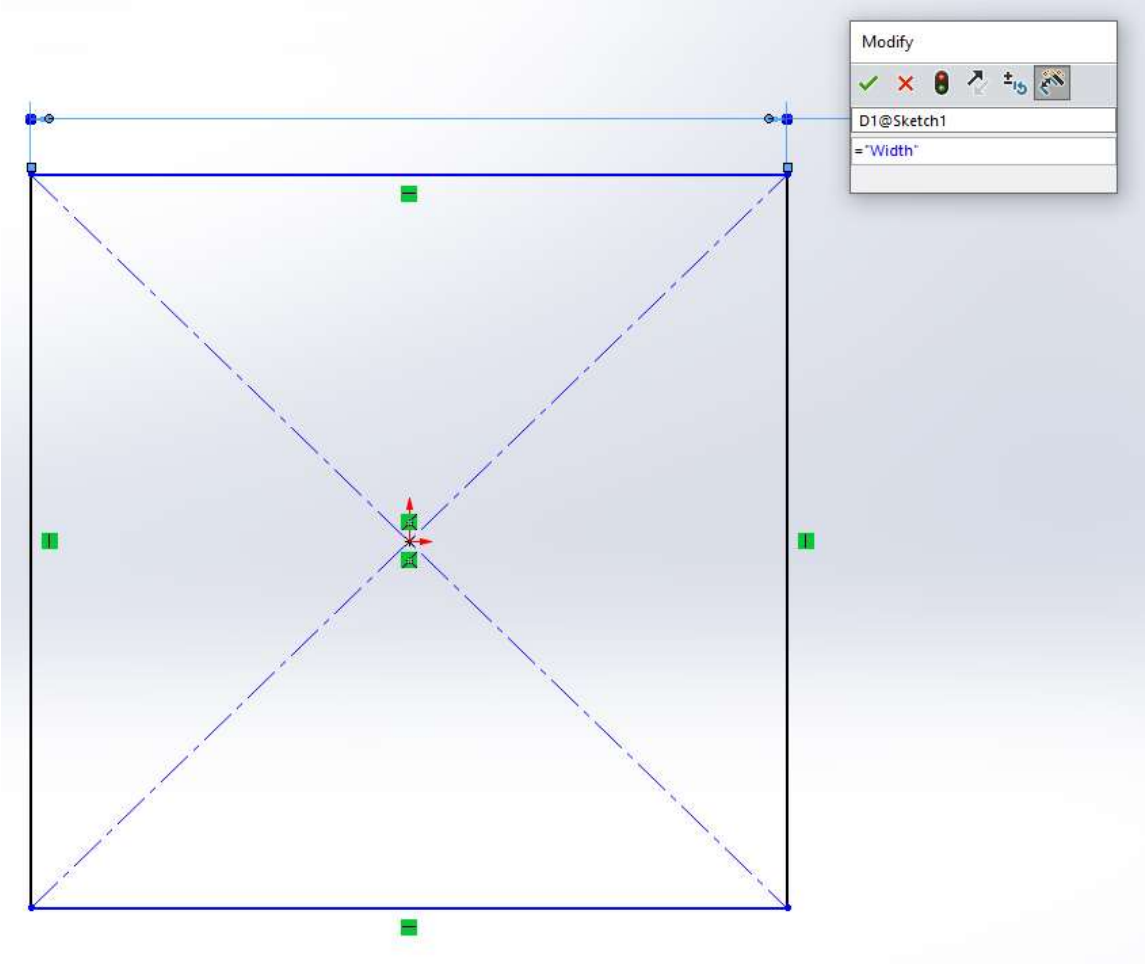


2. You can also relate global variables to each other by putting the expression in Value/Equation. Make sure to put “” around the variable like this: “height”

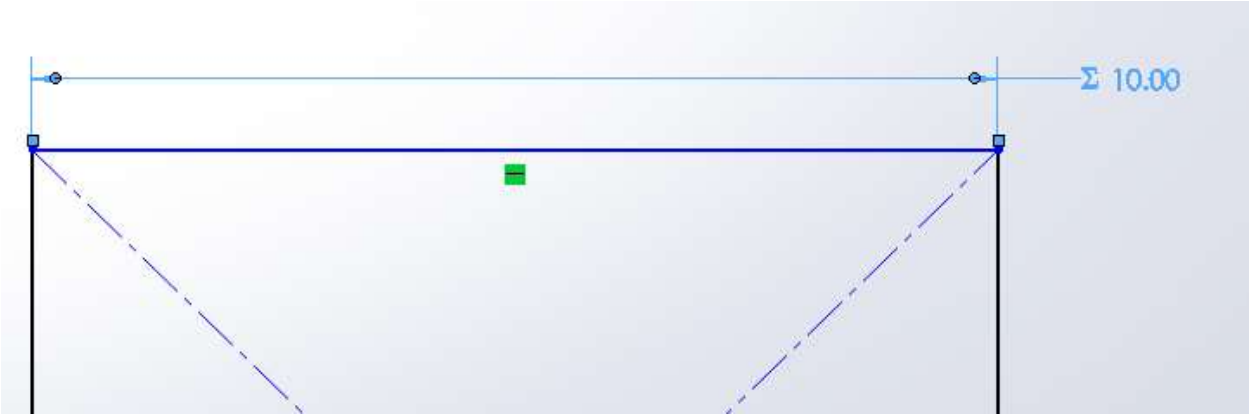


Using Global Variables, 2 ways

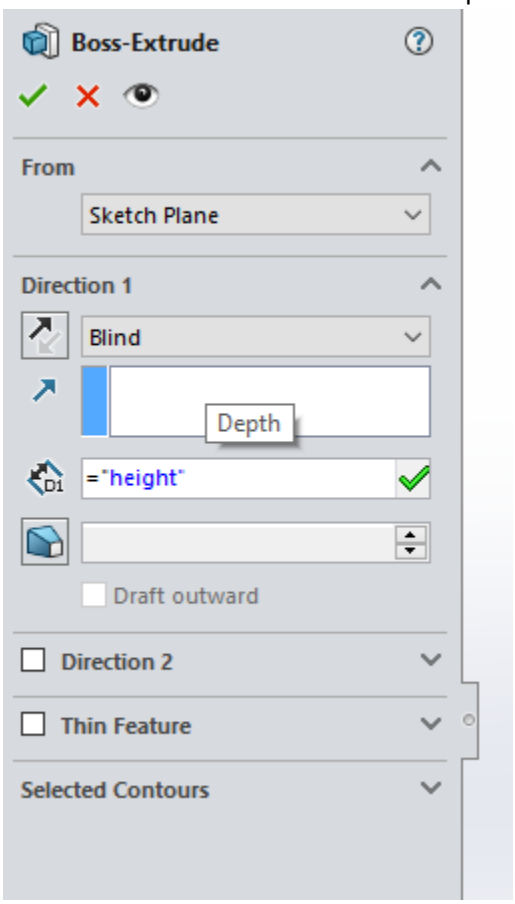
1. Dimensions – Enter variable name into the box that pops up when modifying a dimension. Make sure to put that variable name in quotes!



You can check that the dimension is linked to the variable if it has Σ in front of the dimension, like this:



2. Features – Variable names can also be put in the dimension areas for features too.



Just type: = “Variable”. You’ll know it’s linked when it changes to have a little globe symbol next to it.

Changing Variable values:

Open up the Equations window and edit the value.

Common Issues:

- Dimension not linked to variable
    - Make sure to use “” quotes around the variable name
- Equations are broken (SOLIDWORKS gives an error)
    - Open the Equations window and delete references to deleted dimensions. Sometimes you just need to open the window and click ok and Rebuild.