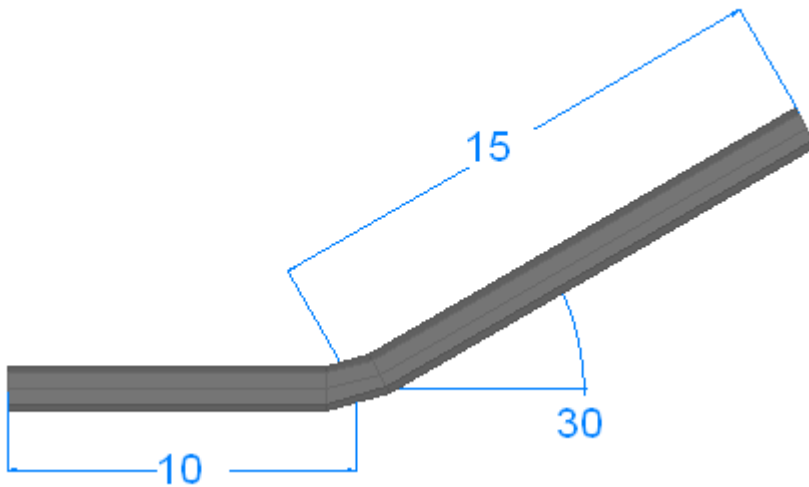


Finding values with only the bend angle and length

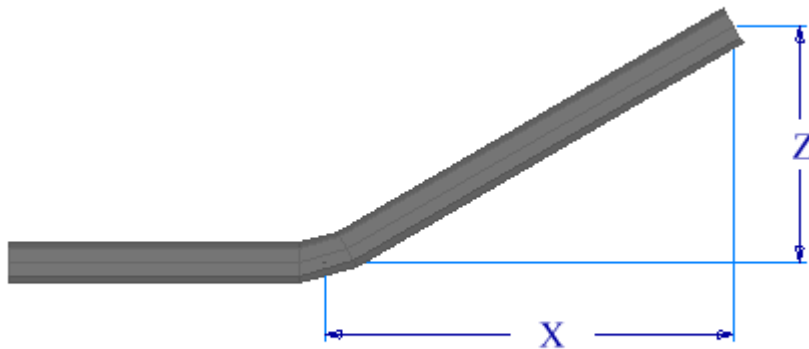
In this example we will show you how to find the values necessary to create a part in the XYZ interface when the only information you have is the bend angle and the leg lengths.

NOTE: All XYZ locations are based upon a 0,0,0 global location. Which means that each location is referenced to an absolute location. The start point does NOT need to be 0,0,0.

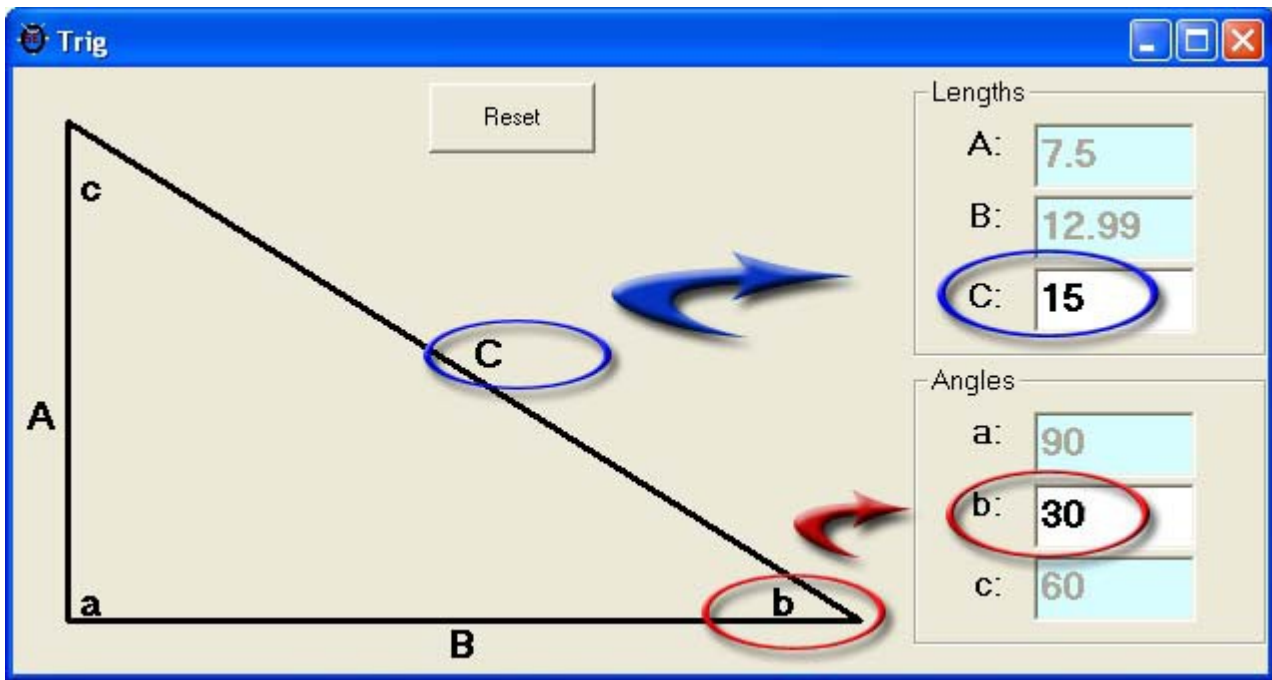
This picture may better explain what we mean:



The XYZ interface is looking for a rise and run style of dimension for this leg.



1) We need to convert the 30 degrees and 15 inch leg over to width and height measurements. To do this we use the "**Trig**" function under the "**Help**" drop-down.

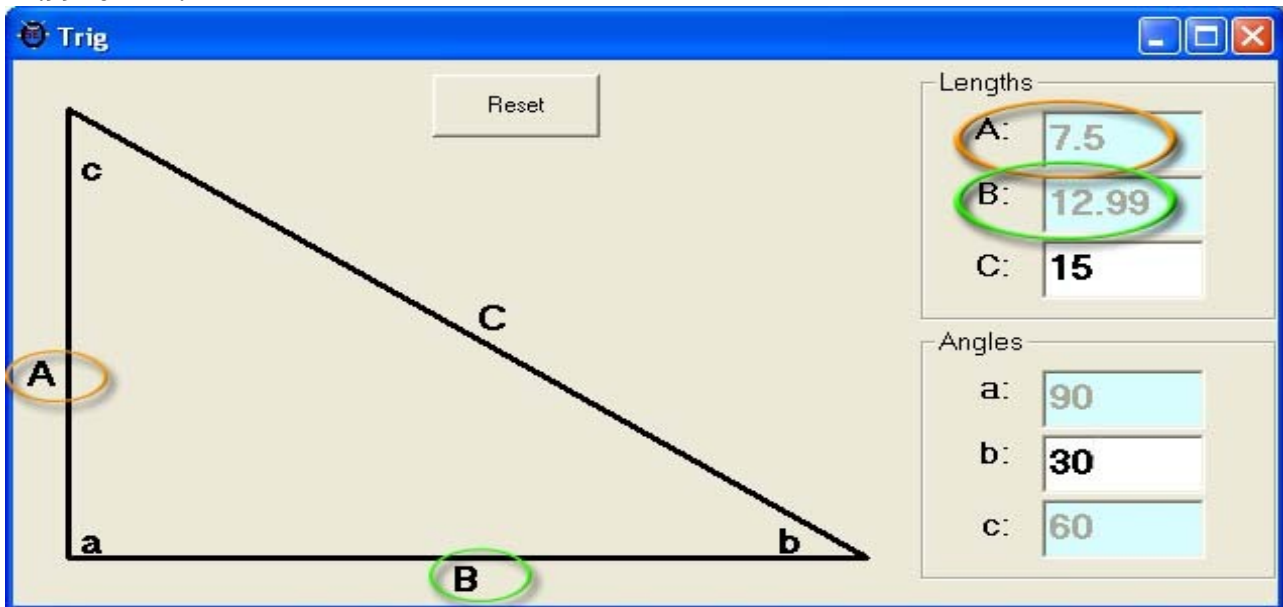


A window will appear that looks like the above picture; a triangle with the corners labeled "a", "b" & "c" and the sides labeled as "A", "B", "C".

2) We know our angle is 30 degrees, so we filled in the lower case "b" field with "30". Please note that "b" & "c" will always add up to 90 degrees.

3) We also know our leg length is 15. We entered a "15" into the upper case "C" field. This side (opposite the 90 degree angle, "a") is known as the hypotenuse.

Once these values are entered we will find our rise and run values. In this case we have 7.5 for "A" and 12.99 for "B".



4) Now that we have our rise and run values, we can create our part in the XYZ interface by entering

the values. Double check that your angle is correct by finding it in the results chart in the upper right hand corner.

The screenshot shows the Bend-Tech SE software interface. At the top, the title bar reads "Bend-Tech SE - [Document 1]". Below the menu bar, the material settings are "Material: 1.0" and "Tooling: 3.0". The cut length is "24 15/16" and the weight is "13". A "Mfg Warning" icon is visible. The units are set to "Inches".

A table in the upper right corner displays the following data:

A	B	Location	Rotation	Angle	CLR
1	1	9 3/16	0	30	3.125

The "Angle" column in this table is circled in green. Below the table, there are tabs for "Simulation", "Bend Order", "Setup Sheet", "Display", "Notes", "Cut Off", "Misc.", "Tooling", and "Material". The "Tooling" tab is active, showing a dropdown menu with "3.0" selected. Other parameters include "CLR: 3.125", "Calibrated CLR: 3.5", "KFactor", "Loc. Offset: 0", and a "Display Spring Angle" checkbox.

The "XYZ Input" section contains a "Number of Bends" dropdown set to "1". It has checkboxes for "Verification Points" (unchecked) and "Refresh on Key Stroke" (checked). Below this is a table for defining the bend:

	X	Y	Z	Dim Type
start	0	0	0	
bend: 1	10	0	0	apex
end	22.99	0	7.5	

To the right of the input fields is a 2D diagram of a blue wire bent at an angle. Red dashed lines indicate dimensions: a vertical line of 7.5 at the end, and a horizontal line of 22.99 from the start to the end. A green dashed line indicates a 0-degree angle at the bend. A coordinate system with X, Y, and Z axes is shown at the start of the wire.

The status bar at the bottom shows "Status", "9/11/2007", and "4:47 PM".

Our "X" value is equal to the 10 from the first leg plus the 12.99 we found using the "Trig" function.