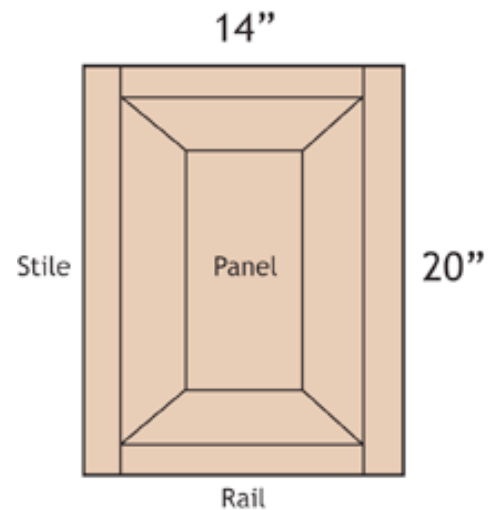


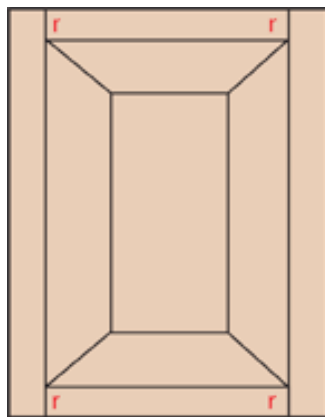
Raised Panel Math Made Simple

One of the hardest parts of making a raised panel door is the math involved for cutting all of the parts. To make life simple, here is a sure-fire way to take the stress out of this process...

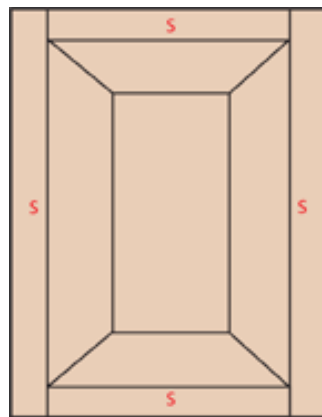
Let's assume the door is 14" wide and 20" tall. The sides of a raised panel door are called Stiles. The tops and bottoms are called Rails. The center is the panel.



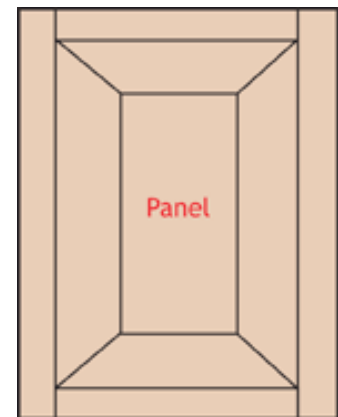
The first cut is called the 'cope' cut and goes on both ends of each rail. The second cut is the 'bead' or 'stick' cut and it goes on all four sides that will accept and frame the panel. The final cuts create the panel itself.



Rail Cuts



Stile Cuts



Now for the Math!

If you are using a raised panel cutter like the Freud 99-566 with a backcutter, all of your stock is 3/4" thick. If not you should plane your panel stock down to 5/8". This method will give you a panel that is flush with the front of your rails and stiles.

In this example we will use a raised panel cutter with a backcutter...

The first parts we can list in this chart are the thickness of the stock and the length of the stile - the full length of the finalized door.

	Length	Width	Thickness
Stile	20"		3/4"
Rail			3/4"
Panel			3/4"

The next numbers to fill in is the width of the rails and stiles. *We chose 2-7/16" because the cope and bead cutter cuts 7/16" deep on both cuts. When the two parts are assembled they negate each other leaving a 2" width for our math.*

	Length	Width	Thickness
Stile	20"	2 ⁷ / ₁₆ "	3/4"
Rail		2 ⁷ / ₁₆ "	3/4"
Panel			3/4"

The lengths of the rails are now easy to calculate because of the whole numbers you can subtract. If the width of the door is 14", subtract the 2" width of each stile resulting in a total of 10" for the rail length.

	Length	Width	Thickness
Stile	20"	2 ⁷ / ₁₆ "	3/4"
Rail	10"	2 ⁷ / ₁₆ "	3/4"
Panel			3/4"

The width of the panel would start as a whole number like 10", but this would not allow for expansion and contraction. Subtract 1/4" from the total to allow 1/8" on each side - making the total width 9-3/4"

	Length	Width	Thickness
Stile	20"	2 ⁷ / ₁₆ "	3/4"
Rail	10"	2 ⁷ / ₁₆ "	3/4"
Panel		10"	3/4"

minus 1/4" for expansion & contraction

The length of the panel is the total length of the door minus the 2" for the top and bottom rails. There is no expansion of the door in length, so leave it full size. *Your panel will never drop down into the cut this way and force it off center.*

	Length	Width	Thickness
Stile	20"	2 ⁷ / ₁₆ "	3/4"
Rail	10"	2 ⁷ / ₁₆ "	3/4"
Panel	16"	9 ³ / ₄ "	3/4"

Now that you have the math, you'll find it easy to create your raised panel doors.