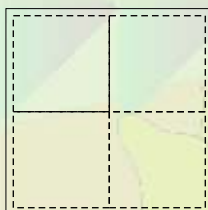


The math behind half square triangles and quarter square triangles.

Finished size refers to the size of a unit (or block) after all seams have been sewn.



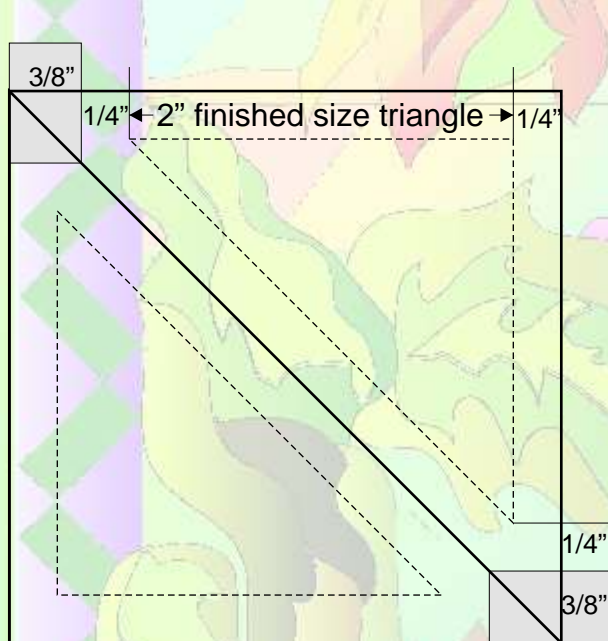
For example, an 8" block will measure 8 1/2" from edge to edge before all blocks are sewn together into a pieced top. The four patch squares will be *cut* 4 1/2" square, but after they are sewn will measure 4".

There are many different ways to sew half square triangle units. Regardless of which method you choose, the math is the same.

Simply add 7/8" to the finished size of the half square triangle unit to get the size of the square you would cut.

Finished Size + 7/8" = cut size of square

The extra 3/8" has to be added in to accommodate the 45° angle. If the angle should be different (like 30°) you would not add 3/8"... It would be some other amount. Just use a template for those.

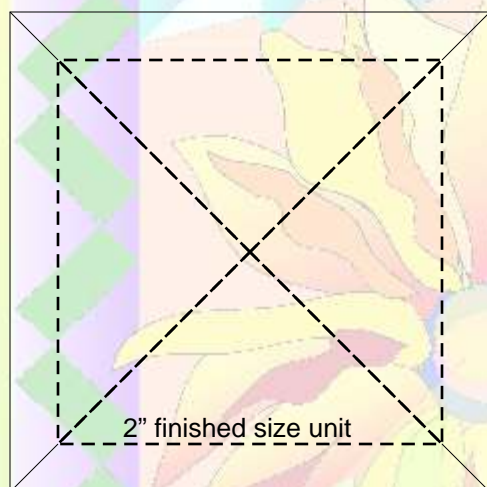


If you are cutting your triangles from squares, (before or after you sew the diagonal seam), add 7/8" to the finished size (e.g. If the unit finishes to 2", cut the squares 2 7/8". If the unit finishes to 2 1/2" cut the squares 3 3/8". Trim the "ears" (the excess 3/8").

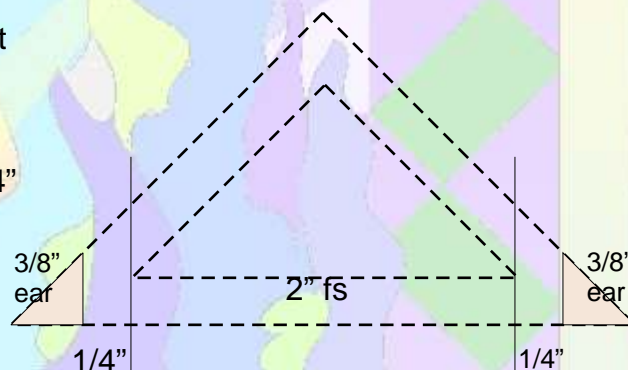


If you are cutting from 2 1/2" wide strips, cut your rectangles 3 1/4" long and *shift* the triangles as shown in the diagram. One of the "ears" is eliminated automatically.

The math for quarter square triangles is exactly the same, but you have *two* angles to deal with when doing the math, rather than one. This is because the straight of grain is now along the long side of the triangle rather than the two shorter sides (as it is in the half square triangle units).



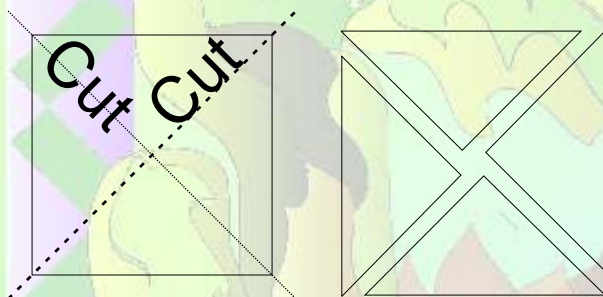
To sew this quarter square triangle unit which finishes to two inches, each triangle is quarter cut from $(2'' + 1 \frac{1}{4}'' = 3 \frac{1}{4}'')$ squares.



To get the four triangles from a square, cut the square $1 \frac{1}{4}''$ larger than the finished size of the (qst) quarter square triangle unit.

Finished size + $1 \frac{1}{4}''$ = cut size of square

Once the square has been cut with an "X" (diagonally across the square in one direction, then diagonally across the square in the other direction) you will have the right size triangles for your QST unit. See instructions on how to sew quarter square triangles.



Finished Size unit	Cut squares for hst's	Cut squares for qst's
1"	1 $\frac{7}{8}''$	2 $\frac{1}{4}''$
1 $\frac{1}{2}''$	2 $\frac{3}{8}''$	2 $\frac{3}{4}''$
2"	2 $\frac{7}{8}''$	3 $\frac{1}{4}''$
2 $\frac{1}{2}''$	3 $\frac{3}{8}''$	3 $\frac{3}{4}''$
3"	3 $\frac{7}{8}''$	4 $\frac{1}{4}''$
3 $\frac{1}{2}''$	4 $\frac{3}{8}''$	4 $\frac{3}{4}''$
4"	4 $\frac{7}{8}''$	5 $\frac{1}{4}''$
4 $\frac{1}{2}''$	5 $\frac{3}{8}''$	5 $\frac{3}{4}''$
5"	5 $\frac{7}{8}''$	6 $\frac{1}{4}''$
5 $\frac{1}{2}''$	6 $\frac{3}{8}''$	6 $\frac{3}{4}''$
6"	6 $\frac{7}{8}''$	7 $\frac{1}{4}''$