

Magic Numbers



Sample block: Lemoyne Star



Quilter's Math

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Quilt Sizes

Type	U.S. Mattress	Comforter	Bedspread
Crib	27" x 52"	36" x 60"	
Twin	39" x 75"	65" x 88"	81" x 110"
Full	54" x 75"	80" x 88"	96" x 110"
Queen	60" x 80"	86" x 93"	102" x 115"
King	76" x 80"	104" x 93"	120" x 115"

- ◆ **Comforter** - includes a 13" drop on 3 sides and no pillow tuck
- ◆ **Bedspread** - includes 21" drop (typical bed height) on 3 sides, and 14" pillow tuck

Quilt Sizes

- ◆ QuiltRef app
- ◆ On iPad, iPhone, or iPod touch

The screenshot shows the QuiltRef app interface. At the top, there is a title bar with the text "Quilt Sizes" and an "Info" button. Below the title bar is a table with four columns: "U.S. Mattress", "Comforter", and "Bedsread". The first row of the table is empty, and the subsequent rows correspond to the bed sizes listed in the text below: Crib, Twin, Full, Queen, and King. Each row contains the dimensions for the U.S. Mattress, Comforter, and Bedsread. Below the table, there are two paragraphs of text explaining the measurements for Comforter and Bedsread. At the bottom of the screen is a navigation bar with four icons: Triangles, Convert, Sizes (which is highlighted), and Stitches.

	U.S. Mattress	Comforter	Bedsread
Crib	27"x52"	36"x60"	
Twin	39"x75"	65"x88"	81"x110"
Full	54"x75"	80"x88"	96"x110"
Queen	60"x80"	86"x93"	102"x115"
King	76"x80"	104"x93"	120"x115"

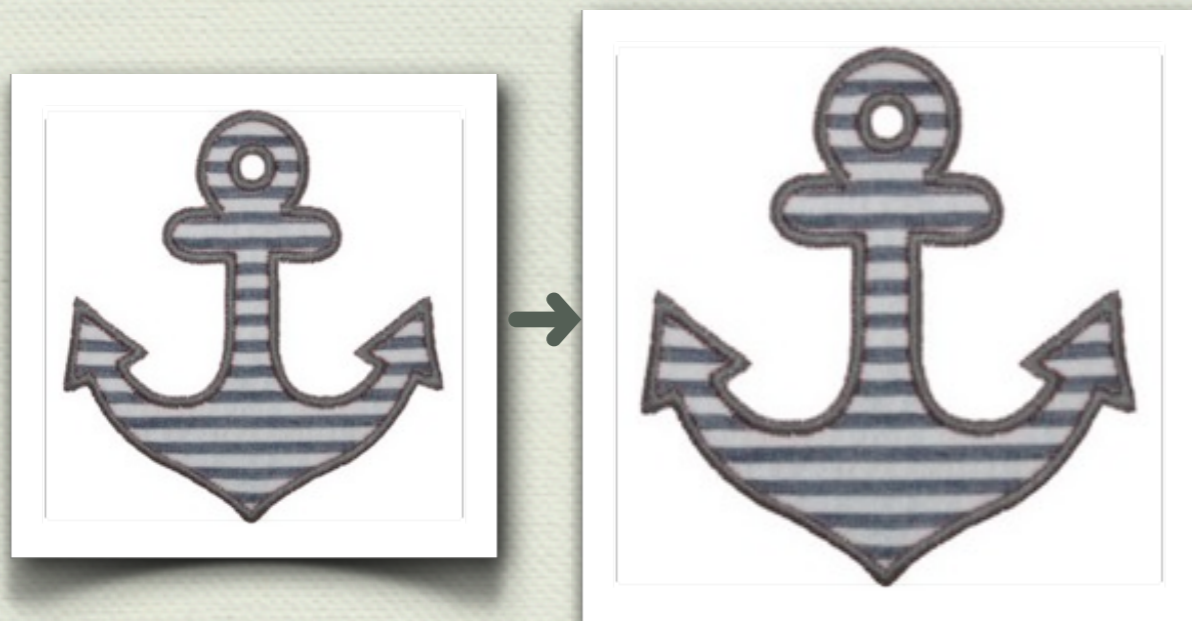
Comforter - (at other than crib size) includes a 13" drop on 3 sides and no pillow tuck.

Bedsread - includes a 21" drop (a typical bed height) on 3 sides, and a 14" pillow tuck.

Navigation bar: Triangles, Convert, **Sizes**, Stitches

Enlarge or Shrink Pattern

“Size you want” divided by “size you have” times 100



or

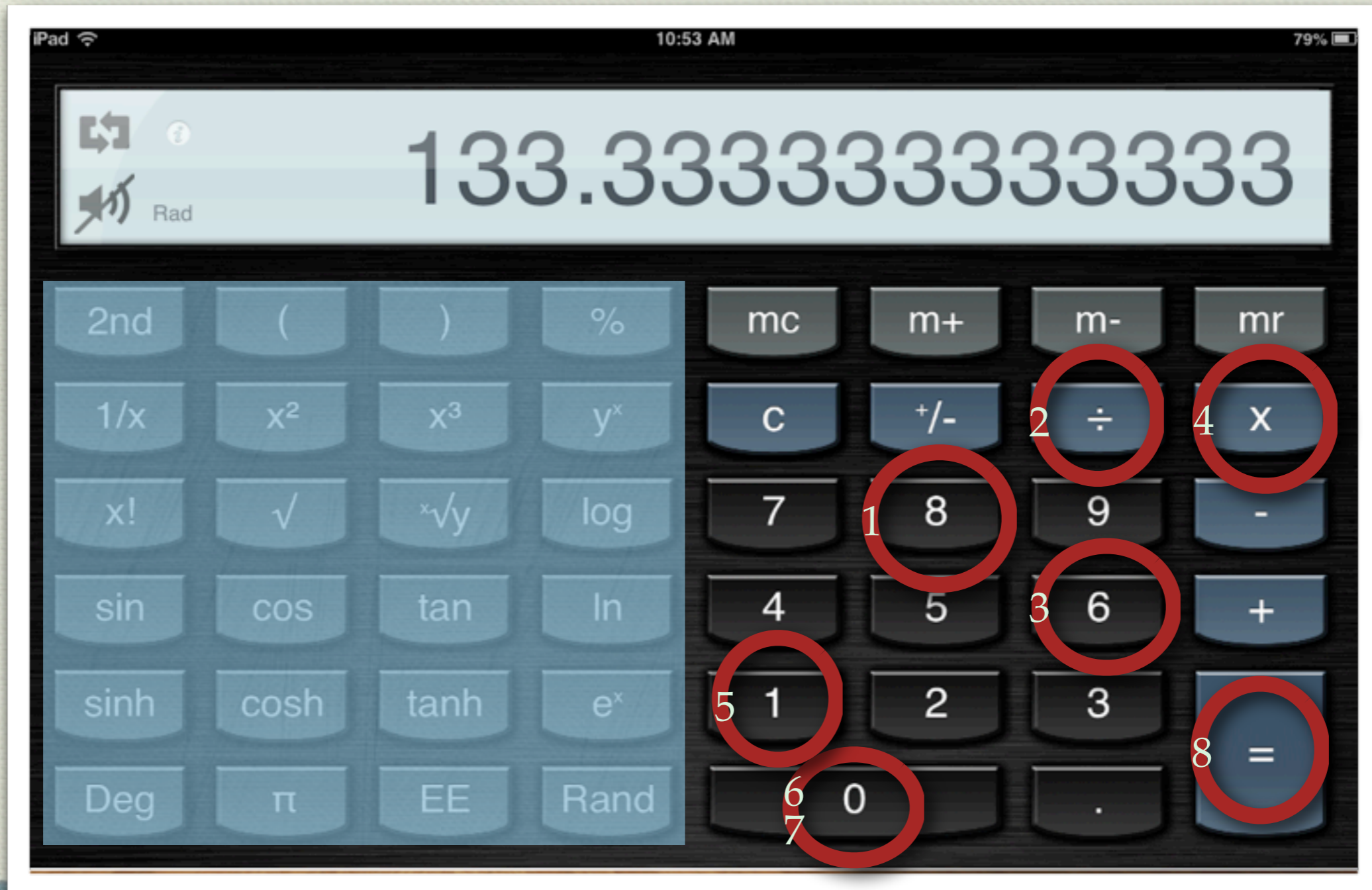
$$\frac{\text{“Size you want”}}{\text{“Size you Have”}} \times 100 = \%$$

Example: Have an applique pattern from a magazine for 6” block, want an 8” block.

$$8 / 6 \times 100 = 1.33 \times 100 = \mathbf{133\%}$$

If Using a Calculator

$$8 \div 6 \times 100 = 133\%$$



If Using Google

The image shows a Google search interface. At the top left is the Google logo. To its right is a search bar containing the text "8 / 6 x 100". Below the search bar are navigation tabs: "Web" (underlined), "Images", "Maps", "Shopping", "Books", "More", and "Search tools". Below the tabs, it says "About 2,860,000,000 results (0.26 seconds)". The main content area features a calculator overlay. The calculator's display shows the expression $(8 / 6) \times 100 =$ and the result 133.3333333333 . The calculator interface includes various function buttons (Rad, Inv, π , e, Ans, EXP, x!), trigonometric buttons (sin, cos, tan), logarithmic buttons (ln, log), and arithmetic buttons (x!, (,), %, AC, 7-9, 4-6, 1-3, 0, ., =, +, -).

Magic Numbers

Square:



Straight of grain

Finished size + $\frac{1}{2}$ "

Rectangle:



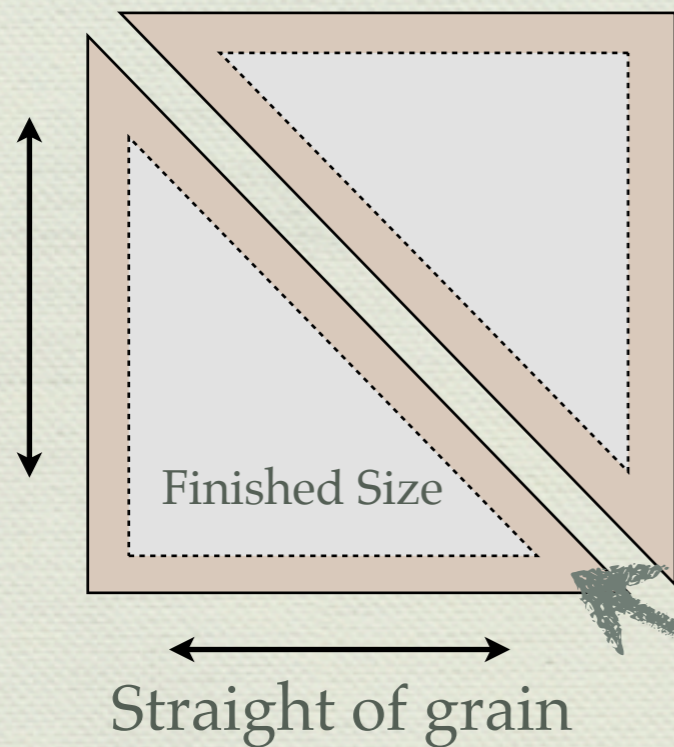
Straight of grain

Finished size + $\frac{1}{2}$ "

$\frac{1}{4}$ " seam allowance

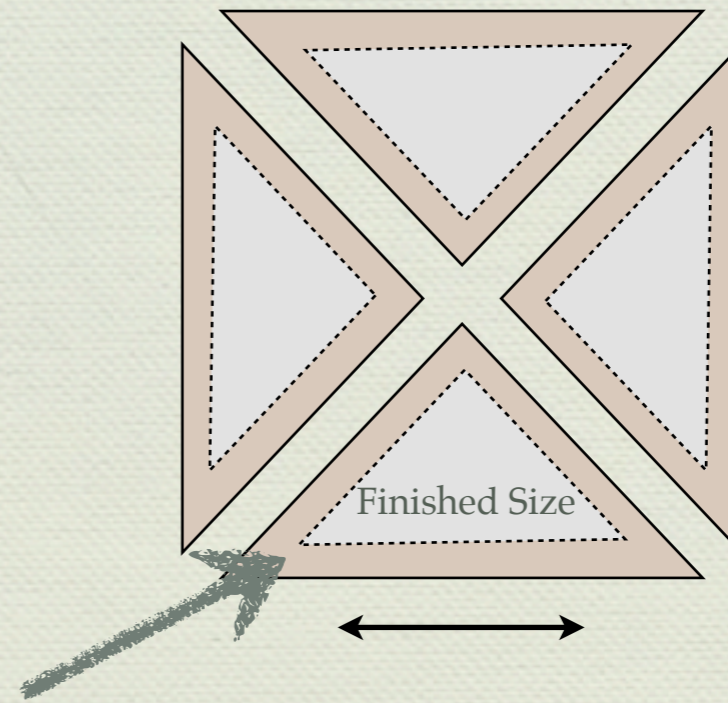
Magic Numbers

Half Square Triangle:



Finished size + $\frac{7}{8}$ "
(cut square once on diagonal)

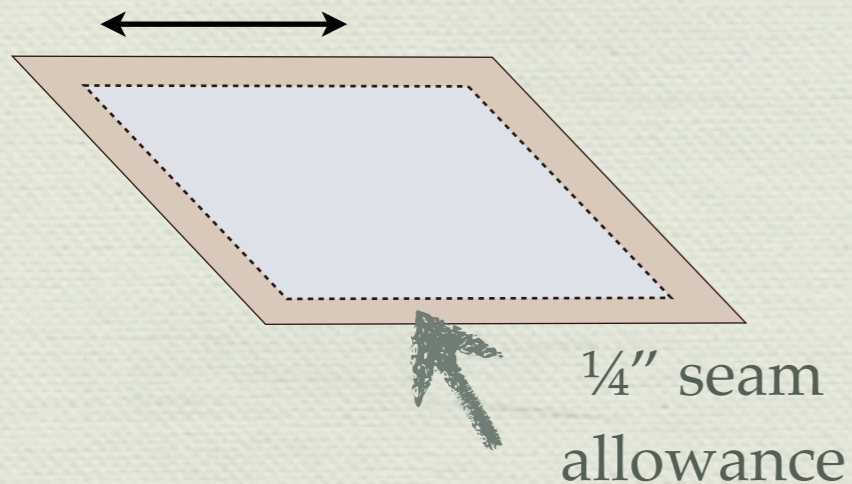
Quarter Square Triangle:



Finished size + $1 \frac{1}{4}$ "
(cut square twice on diagonal)

$\frac{1}{4}$ " seam allowance

45° Parallelogram



Add for seam allowance:

Height: $\frac{1}{2}$ "

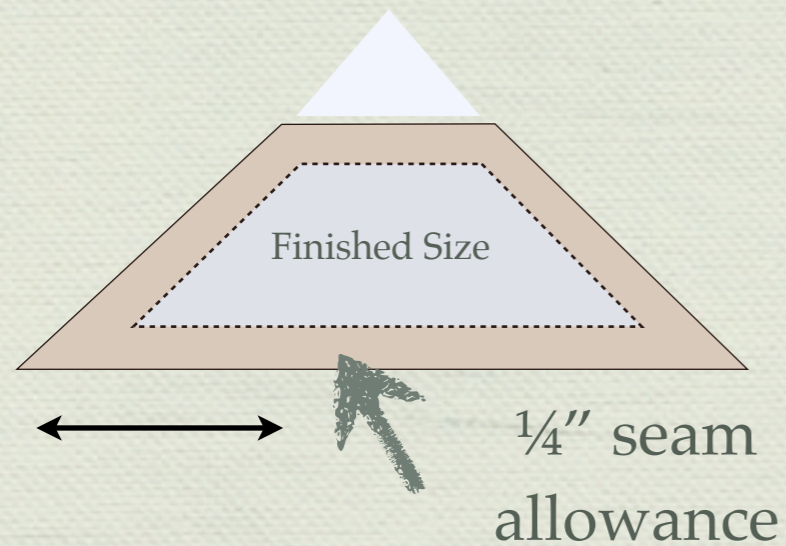
Length: $\frac{3}{4}$ "



Sample block: Lemoyne Star

(45° Parallelogram is a 45° diamond if and only if all 4 sides are equal)

45° Trapezoid

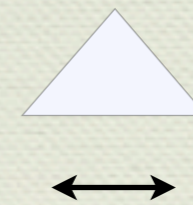


Add for seam allowance:
Height: 1/2"
Length: 1 1/4"

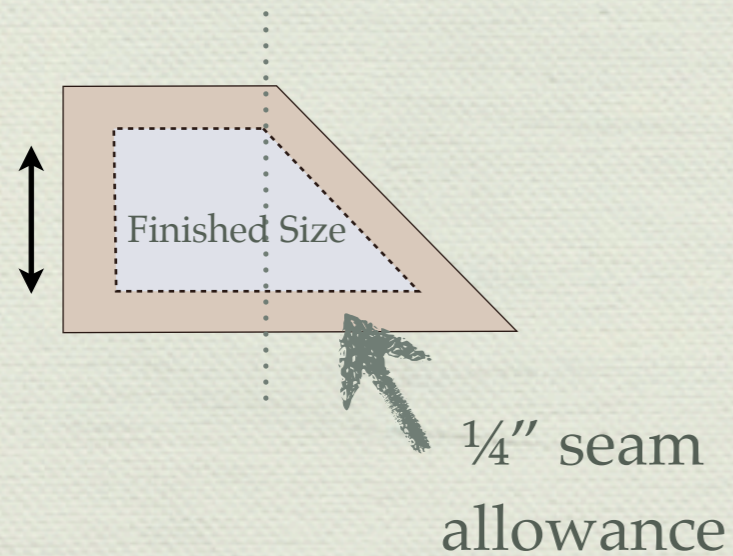
(similar to quarter square triangle,
with top lopped off)



Sample block: Sail Boat

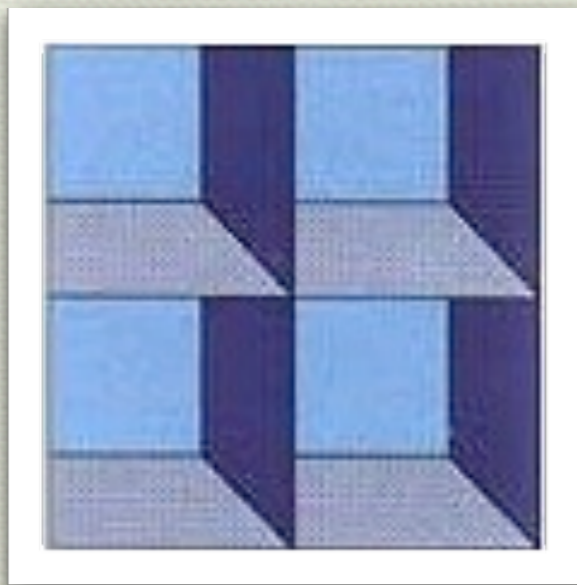


45° Half Trapezoid

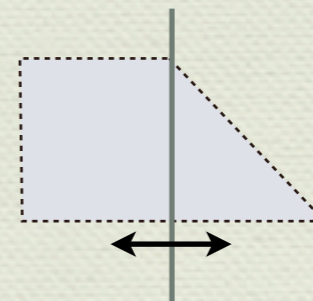


Add for seam allowance:
Height: $\frac{1}{2}$ "
Length: $\frac{7}{8}$ "

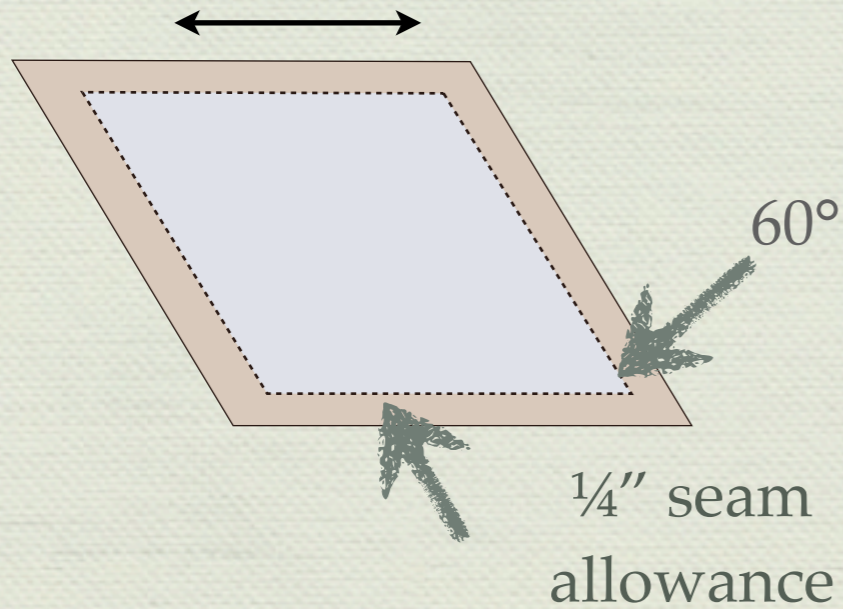
(similar to half square triangle)



Sample block: Attic Windows



60° Diamond



$$\begin{aligned} \text{height} &= \text{length} * \sin 60^\circ \\ &= \text{length} * \frac{1}{2} \sqrt{3} \end{aligned}$$

or

height determines cutting width



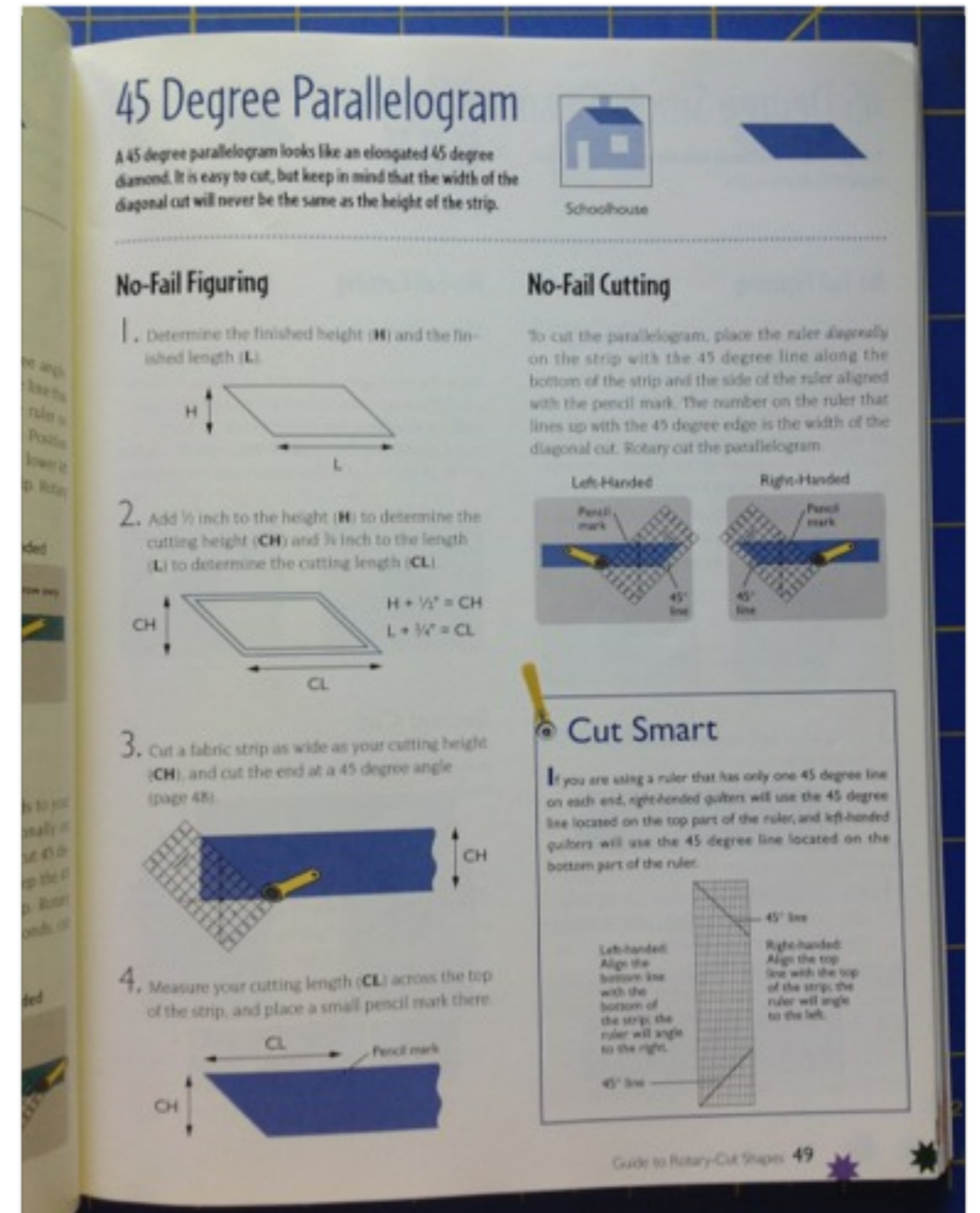
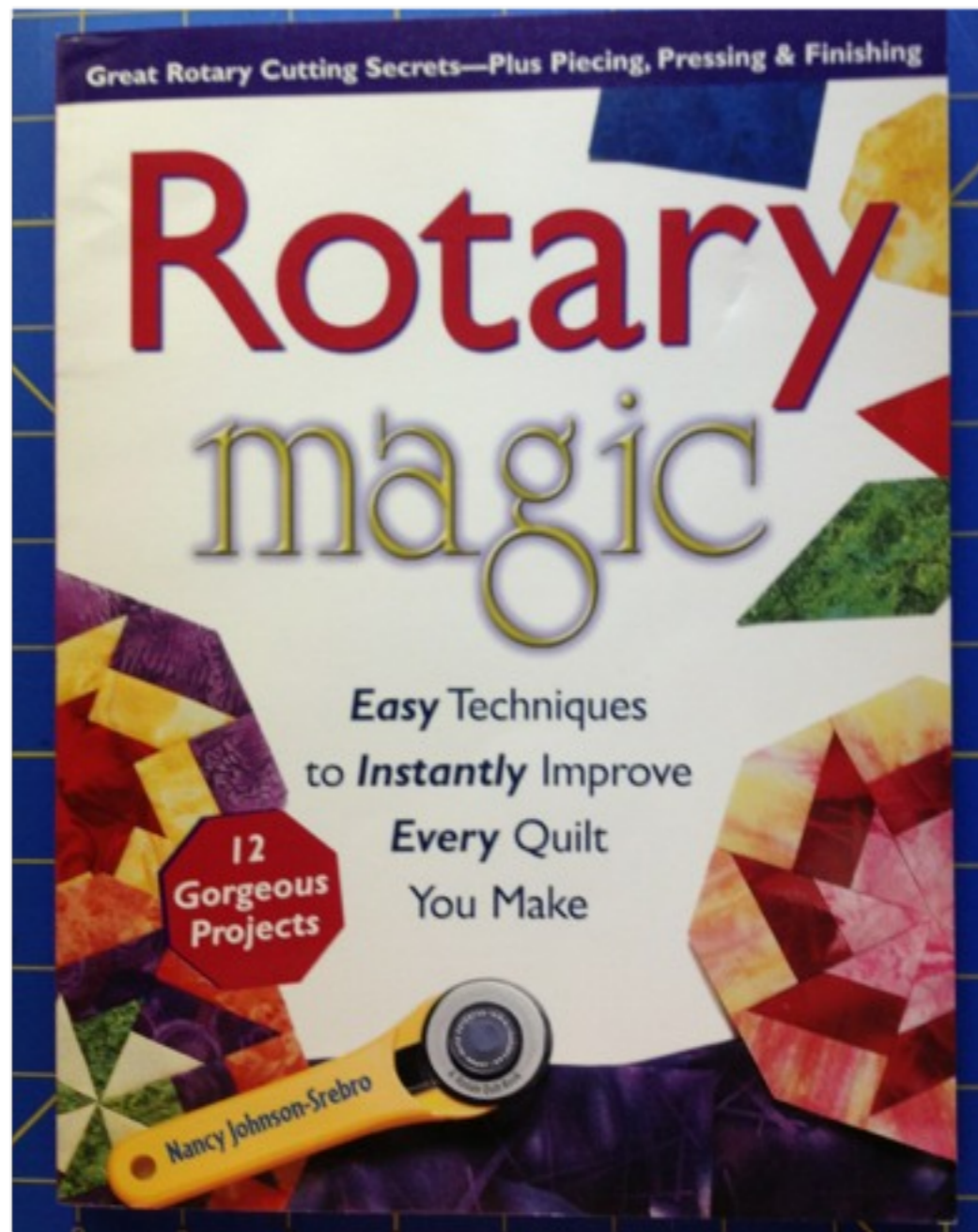
Sample block: Tumbling Blocks

Add for seam allowance:

Height: $\frac{1}{2}$ "

Length: $\frac{5}{8}$ "

Good Reference



If Using BlockFab on iPad

Patch

Settings

12 Half Sq Triangles

1. Cut 2 strips, each $6\frac{7}{8}$ " wide.

2. Cut 5 $6\frac{7}{8}$ " squares from each strip.

3. Cut each square in half, corner to corner. Use 12 of the triangles.

Number of Pat

Finished Base

Fabric (40" wid

Cutting Assumptions

12 Half Square Triangles

2 strips, $6\frac{7}{8}$ " wide

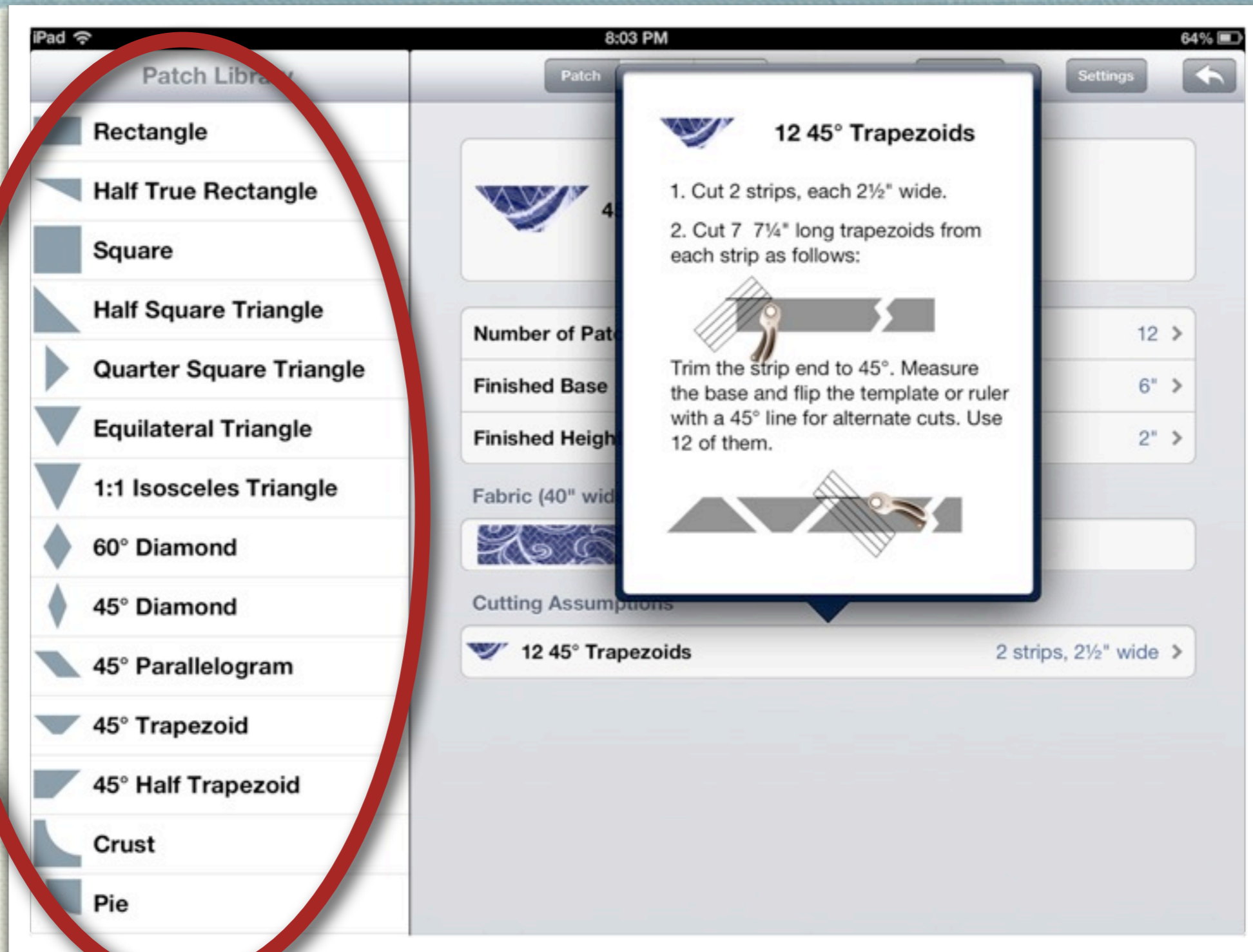
How many

12 >

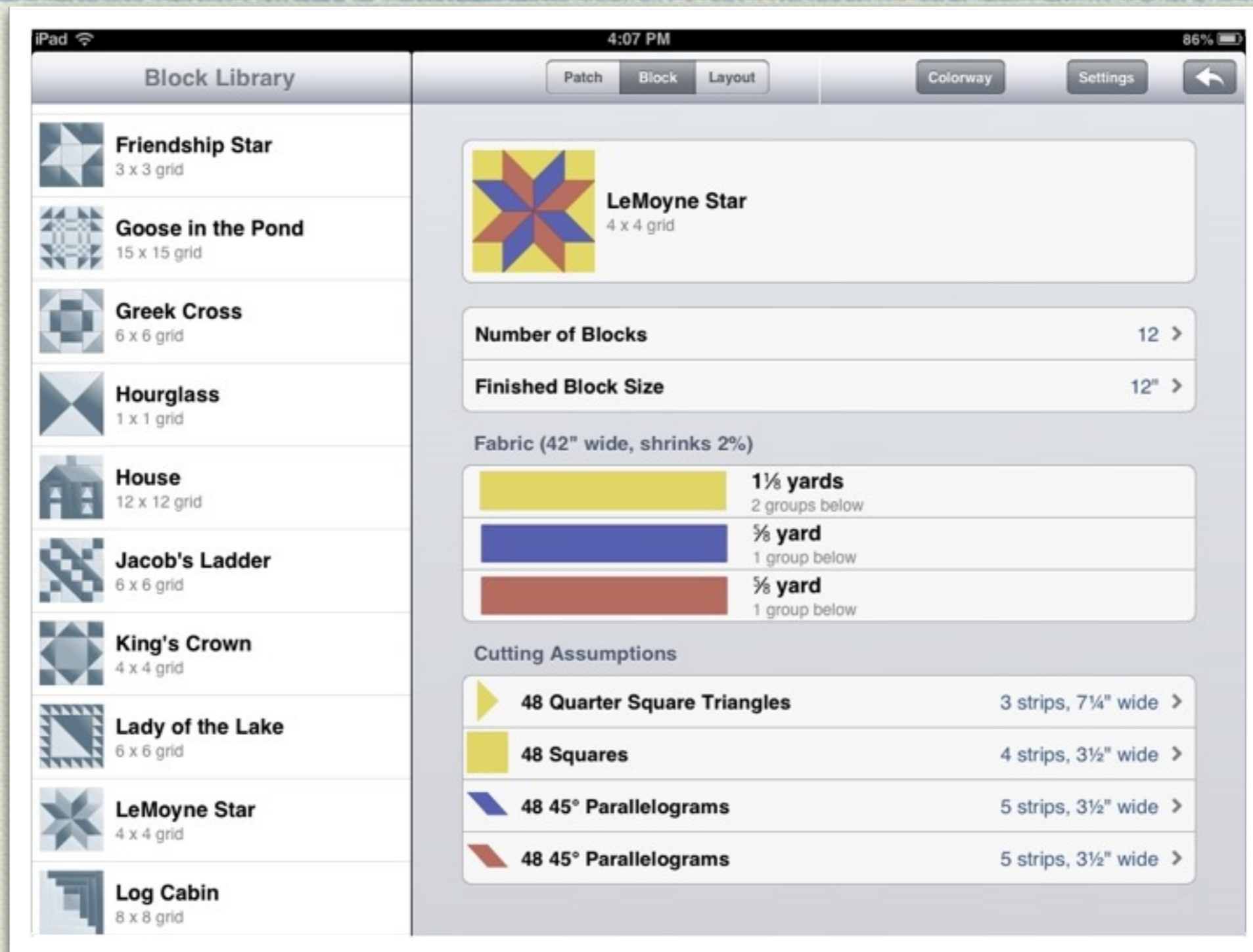
What size

6" >

If Using BlockFab on iPad



BlockFab-HD Blocks



Block Library

- Friendship Star
3 x 3 grid
- Goose in the Pond
15 x 15 grid
- Greek Cross
6 x 6 grid
- Hourglass
1 x 1 grid
- House
12 x 12 grid
- Jacob's Ladder
6 x 6 grid
- King's Crown
4 x 4 grid
- Lady of the Lake
6 x 6 grid
- LeMoyne Star
4 x 4 grid
- Log Cabin
8 x 8 grid

4:07 PM 86%

Patch Block Layout Colorway Settings

LeMoyne Star
4 x 4 grid

Number of Blocks 12 >

Finished Block Size 12" >

Fabric (42" wide, shrinks 2%)

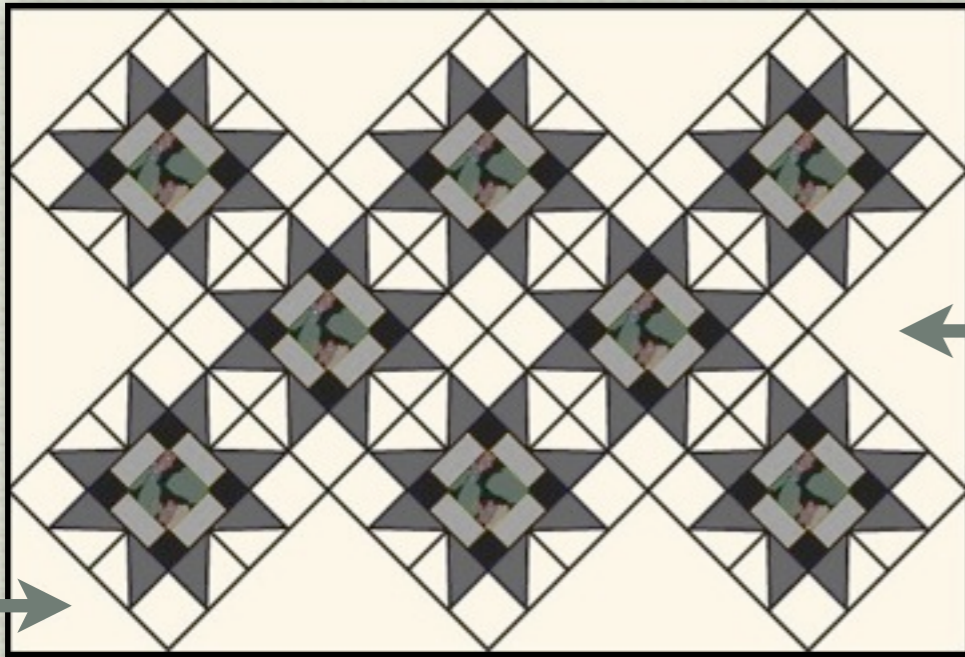
- 1 1/8 yards
2 groups below
- 3/8 yard
1 group below
- 3/8 yard
1 group below

Cutting Assumptions

- 48 Quarter Square Triangles 3 strips, 7/4" wide >
- 48 Squares 4 strips, 3 1/2" wide >
- 48 45° Parallelograms 5 strips, 3 1/2" wide >
- 48 45° Parallelograms 5 strips, 3 1/2" wide >

Setting Blocks on Diagonal

Recommendation: add $\frac{1}{4}$ " to $\frac{1}{2}$ ".
Trim any excess after sewing.



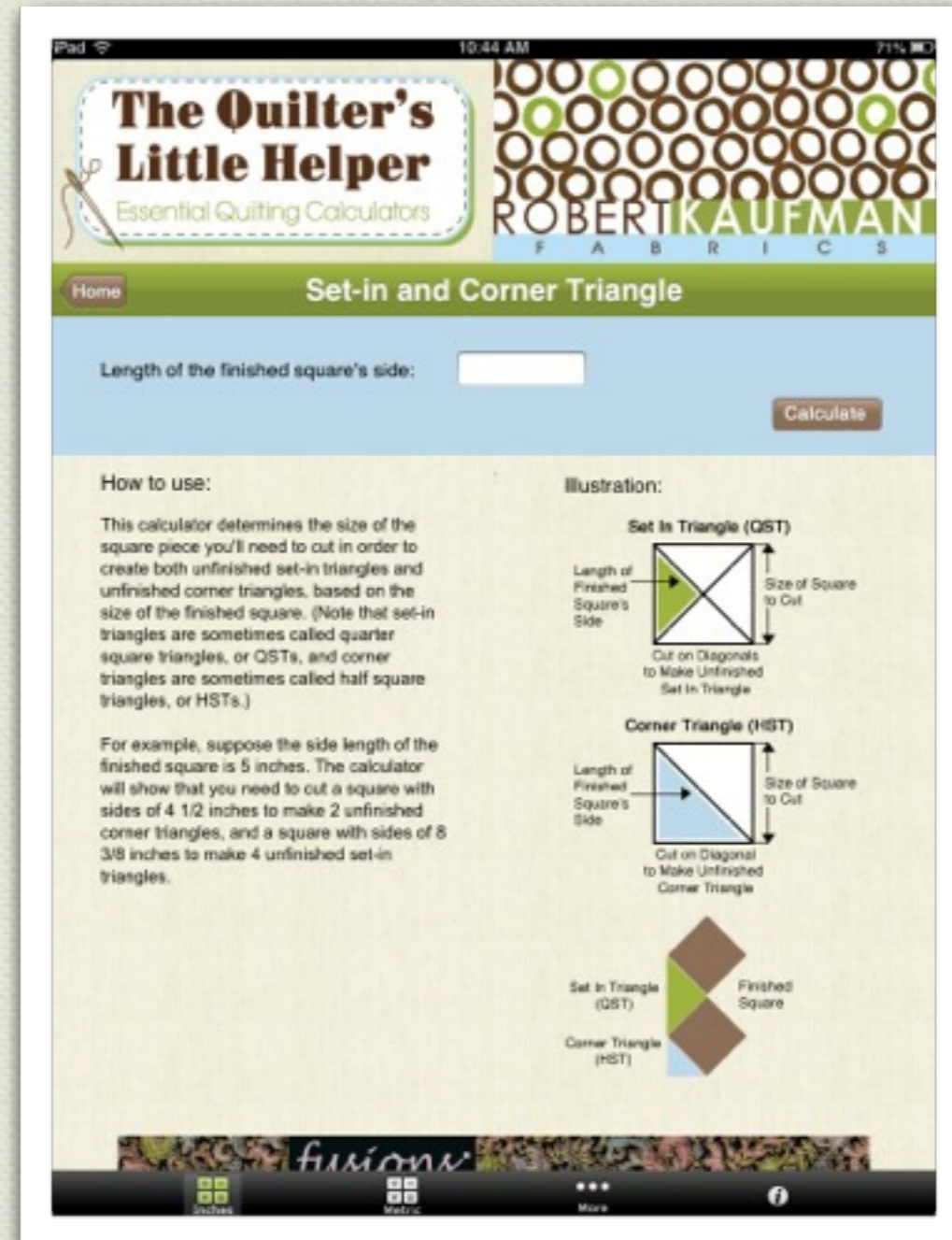
Side setting
triangle

Finished block size $\times \sqrt{2} + 1 \frac{1}{4}$ " =
Finished block size $\times 1.414 + 1.25$ "
(cut square twice on diagonal)

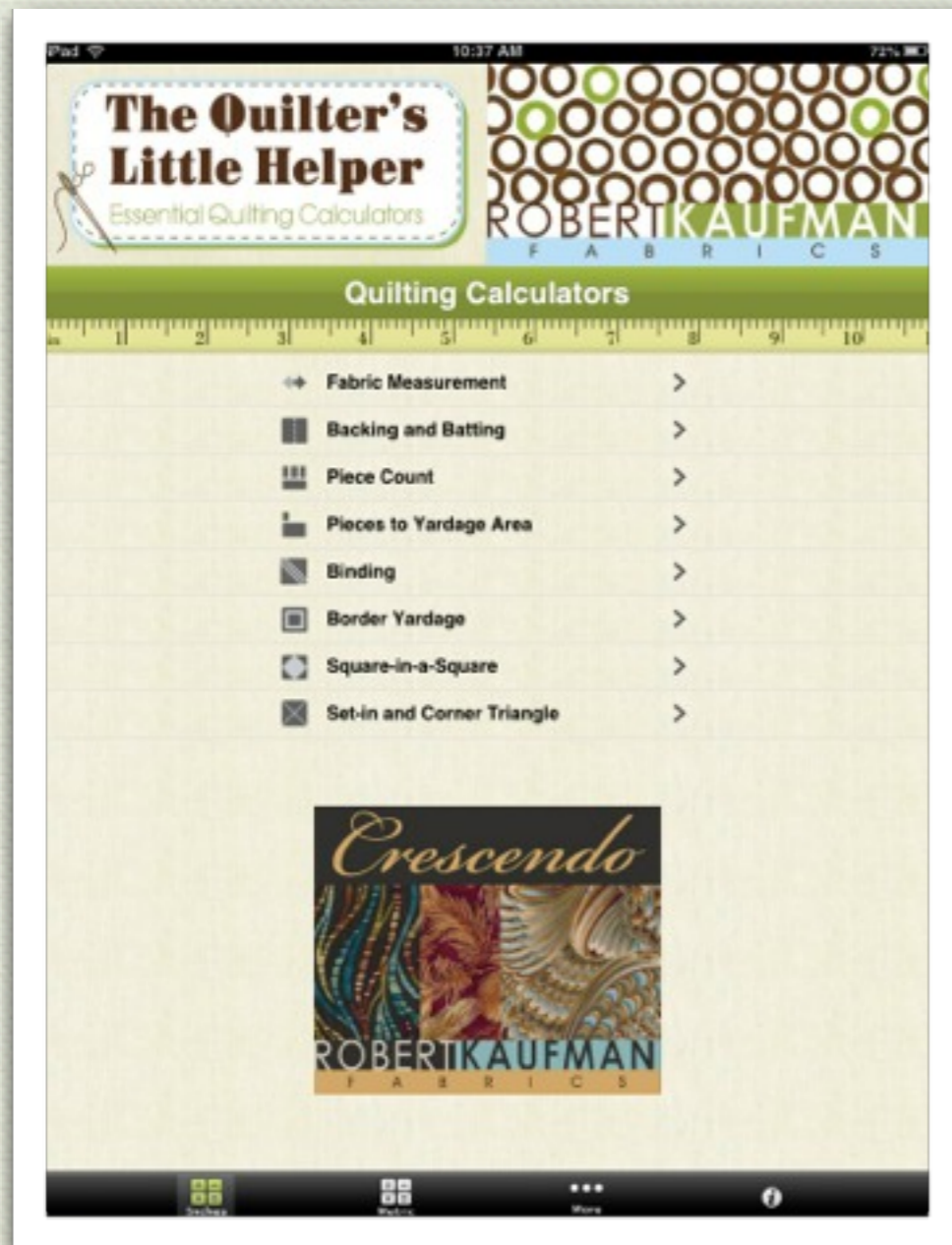
Corner setting
triangle

Finished block size $\div \sqrt{2} + \frac{7}{8}$ " =
Finished block size $\div 1.414 + 0.875$ "
(cut square once on diagonal)

Apple Device Apps



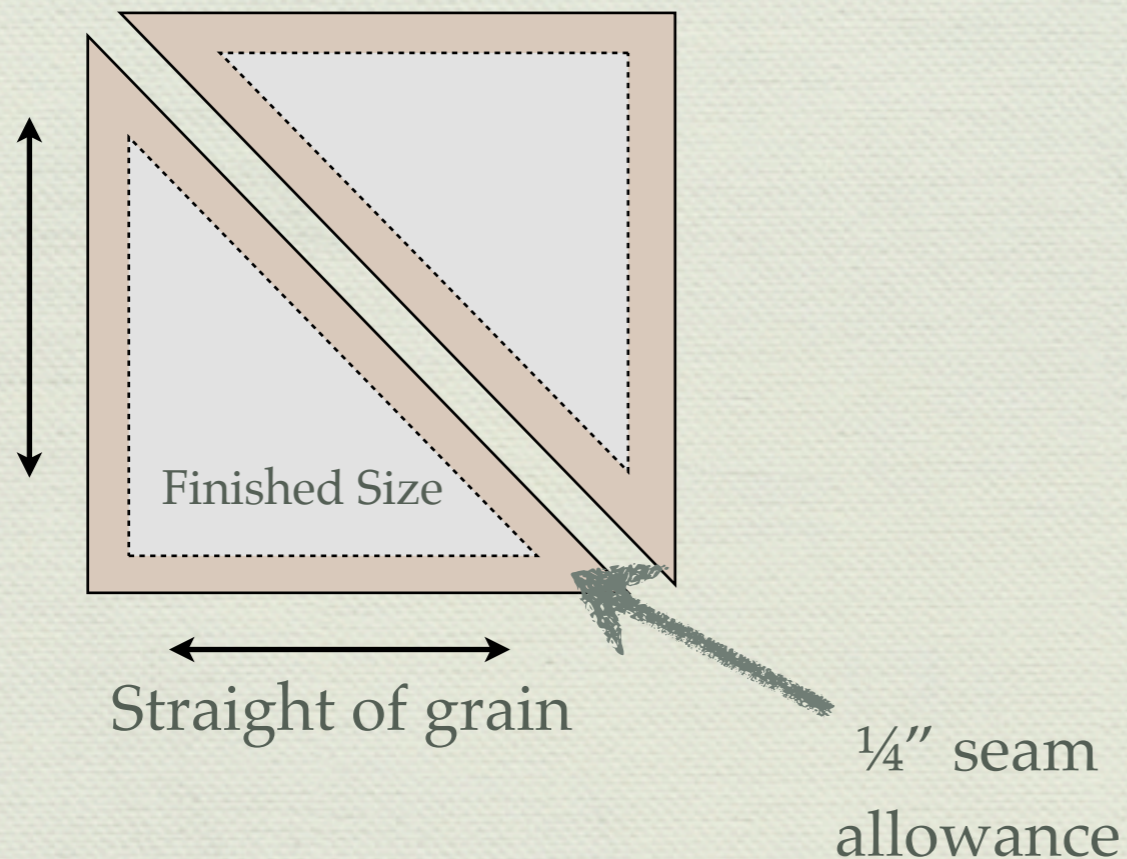
Apple Device Apps



Half Square Triangle

Any Seam Allowance

Half Square Triangle:



Add for seam allowance:
 $SA * (2 + \sqrt{2})$

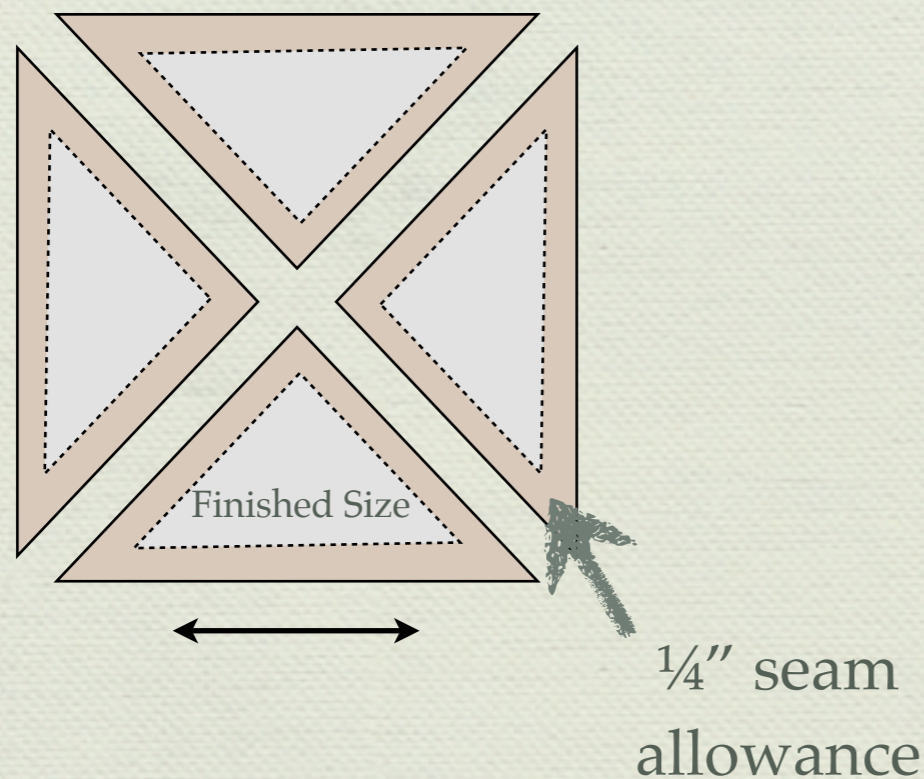
Example: 1/4" SA:

$$\begin{aligned} & \frac{1}{4}'' * (2 + \sqrt{2}) \\ &= \frac{1}{4}'' * (2 + 1.414) \\ &= \frac{1}{4}'' * 3.414 \\ &= 0.8356'' \\ &\cong 0.875 = \frac{7}{8}'' \end{aligned}$$

Finished size + 7/8"
(cut square once on diagonal)

Quarter Square Triangle

Any Seam Allowance



Finished size + 1 1/4"
(cut square twice on diagonal)

Add for seam allowance:

$$SA * (2 + 2\sqrt{2})$$

Example: 1/4" SA:

$$\begin{aligned} & \frac{1}{4}'' * (2 + 2\sqrt{2}) \\ &= \frac{1}{4}'' * (2 + 2.828) \\ &= \frac{1}{4}'' * 4.828 \\ &= 1.207'' \\ &\cong 1.250 = 1 \frac{1}{4}'' \end{aligned}$$

Download and Print a Chart

Triangles & Setting Triangles Calculator

Finished Size	Cut for HST	Cut for QST	Cut for Setting Corners HST	Cut for Setting Sides QST	Diagonal	Finished Size	Cut for HST	Cut for QST	Cut for Setting Corners HST	Cut for Setting Sides QST	Diagonal
1"	1 $\frac{7}{8}$ "	2 $\frac{1}{4}$ "	1 $\frac{5}{8}$ "	2 $\frac{3}{4}$ "	1 $\frac{3}{8}$ "	10"	10 $\frac{7}{8}$ "	11 $\frac{1}{4}$ "	8"	13 $\frac{1}{2}$ "	14 $\frac{1}{8}$ "

Finished Size	Cut for HST	Cut for QST	Cut for Setting Corners HST	Cut for Setting Sides QST	Diagonal
1"	1 $\frac{7}{8}$ "	2 $\frac{1}{4}$ "	1 $\frac{5}{8}$ "	2 $\frac{3}{4}$ "	1 $\frac{3}{8}$ "



With compliments from  Victoriana Quilt Designs [www.victorianaquilt designs.com]

Cutting Strips & Squares Calculator

Cut Width	Strips* per 1/8 yard [4 1/2"/.125]	Strips* per 1/4 yard [9"/.25]	Strips* per 1/2 yard [18"/.5]	Strips* per 3/4 yard [27"/.75]	Strips* per 1 yard [36"]	Squares per strip	Squares per 1/8 yard [4 1/2"/.125]	Squares per 1/4 yard [9"/.25]	Squares per 1/2 yard [18"/.5]	Squares per 3/4 yard [27"/.75]	Squares per 1 yard [36"]	Squares per Fat Quarter
1"	3	8	17	26	35	40	120	320	680	1040	1400	340
1 1/2"	2	5	12	17	23	26	52	130	312	442	598	156
2"	1	4	8	13	17	20	20	80	160	260	340	80
2 1/2"	1	3	6	10	14	16	16	48	96	160	224	48
3"	1	2	5	9	11	13	13	26	65	117	143	35
3 1/2"	1	2	4	7	10	11	11	22	44	77	110	24
4"	-	2	4	6	8	10	10	20	40	60	80	20
4 1/2"	-	1	3	6	7	8	8	16	24	48	56	12
5"	-	1	3	5	7	8	8	16	24	40	56	12
5 1/2"	-	1	3	4	6	7	7	14	21	28	42	9
6"	-	1	2	4	5	6	6	12	12	24	30	6
6 1/2"	-	1	2	4	5	6	6	12	24	30	30	6
7"	-	1	2	3	5	5	5	10	15	25	25	6
7 1/2"	-	1	2	3	4	5	5	10	15	20	20	4
8"	-	1	2	3	4	5	5	10	15	20	20	4
8 1/2"	-	1	2	3	4	4	5	8	12	16	16	4
9"	-	1	2	3	4	4	4	8	8	12	12	2
9 1/2"	-	1	2	3	4	4	4	8	8	12	12	2
10"	-	1	2	3	4	4	4	8	8	12	12	2
10 1/2"	-	1	2	3	4	3	3	6	9	9	9	2
11"	-	1	2	3	4	3	3	6	9	9	9	1
11 1/2"	-	1	2	3	4	3	3	6	9	9	9	1
12"	-	1	2	3	4	3	3	6	6	6	6	1


*42" usable width (add more for smaller width fabric). Fat Quarter = 22" x 18".

With compliments from  **Victoriana Quilt Designs** [www.victorianaquilt designs.com]

Backing Calculator

Crib, Lap & Small Quilt Projects

Up to 40" wide




By length of quilt plus 6"

Length up to:	Fabric Needed
30"	1 yard
43"	1 1/2 yards
56"	2 yards

Twin & Double (Full) Quilts

Up to 80" wide




By length of quilt plus 8"

Length up to:	Fabric Needed
59"	3 1/2 yards
64"	4 yards
73"	4 1/2 yards
82"	5 yards
91"	5 1/2 yards
100"	6 yards

To Calculate:
Length x 2 + 16"

Queen Size Quilts

By width of quilt plus 8"




Up to 120" long

Width up to:	Fabric Needed
52"	3 yards
58"	5 1/2 yards
64"	6 yards
70"	6 1/2 yards
76"	7 yards
82"	7 1/2 yards
88"	8 yards

To Calculate:
Width x 3 + 24"

King Size Quilts

Up to 120" wide



By length of quilt plus 8"

Length up to:	Fabric Needed
70"	6 1/2 yards
76"	7 yards
82"	7 1/2 yards
88"	8 yards
94"	8 1/2 yards
100"	9 yards

To Calculate:
Length x 3 + 24"

Please Note: Fabric is based on 42" usable width (adjust for smaller width fabric). Preparation Tips: Trim off the Selvages and Press the Seams Open

With compliments from  Victoriana Quilt Designs [www.victorianaquilt designs.com]

Binding Calculator

Length + Width of Quilt	Number of strips required*	Total Amount of Fabric**	Yardage Required**	Total Usable Length
24" to 34"	2	5"	¼ yard	68"
36" to 50"	3	7½"	¼ yard	102"
52" to 66"	4	10"	½ yard	136"
68" to 84"	5	12½"	½ yard	170"
86" to 100"	6	15"	¾ yard	204"
102" to 118"	7	17½"	¾ yard	238"
120" to 134"	8	20"	1 yard	272"
136" to 152"	9	22½"	1 yard	306"
154" to 168"	10	25"	1 ¼ yard	340"
170" to 186"	11	27½"	1 ½ yard	374"
188" to 200"	12	30"	1 ¾ yard	408"

* Based on 44"-45" Width Fabric

** Based on 2½" Cut Binding Strip Width

With compliments from  **Victoriana Quilt Designs** [www.victorianaquiltdesigns.com]

iPad Apps



BlockFab-HD



QuiltFab



QuiltRef



QuiltCalc