

BONUS

Mattress Size Chart
Calculations for Yardage
and Precuts

Quilting Charts & Formulas

**LANDAUER**
PUBLISHING AND LICENSING FOR THE HOME ARTS

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Quilting The basics & beyond by Jeri Simon

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Charts

REDUCING AND ENLARGING BLOCKS

When reducing or enlarging a quilt block to an alternate size a photocopy machine is a helpful tool. Always double-check the measurements of the final image after reducing or enlarging it on the photocopy machine. Another useful tool when figuring block size reduction or enlargement is a Proportional Scale tool. It resembles a wheel and can be found at quilt, art, or craft stores.

Enlarging a block:

If you have a 6-inch block that you would like to make into a 12-inch block follow this formula:
 $12 \text{ (desired size)} \div 6 \text{ (original size)} \times 100 = 200\% \text{ (enlargement)}$

Reducing a block:

If you have a 6-inch block that you would like to make into a 4-inch block follow this formula:
 $4 \text{ (desired size)} \div 6 \text{ (original size)} \times 100 = 66.6\% \text{ (reduction)}$

Refer to the charts provided for more samples of reducing and enlarging blocks.

Original Finished Block Size	Desired Finished Block Size – 2" to 7-1/2"											
	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"
2"	100%	125%	150%	175%	200%	225%	250%	275%	300%	325%	350%	375%
2-1/2"	80%	100%	120%	140%	160%	180%	200%	220%	240%	260%	280%	300%
3"	66.6%	120%	100%	116.6%	133.3%	150%	166.6%	183.3%	200%	216.6%	233.3%	250%
3-1/2"	57.1%	71.4%	85.7%	100%	114.2%	128.5%	142.8%	157.1%	171.4%	185.7%	200%	214.2%
4"	50%	62.5%	75%	87.5%	100%	112.5%	125%	137.5%	150%	162.5%	175%	187.5%
4-1/2"	44.4%	55.5%	66.6%	77.7%	88.8%	100%	111.1%	122.2%	133.3%	144.4%	155.5%	166.6%
5"	40%	50%	60%	70%	80%	90%	100%	110%	120%	130%	140%	150%
5-1/2"	36.3%	45.4%	54.5%	63.6%	72.7%	81.8%	90.9%	100%	109%	118.1%	127.2%	136.3%
6"	33.3%	41.6%	50%	58.3%	66.6%	75%	83.3%	91.6%	100%	108.3%	116.6%	125%
6-1/2"	30.7%	38.4%	46.1%	53.8%	61.5%	69.2%	76.9%	84.6%	92.3%	100%	107.6%	115.3%
7"	28.5%	35.7%	42.8%	50%	57.1%	64.2%	71.4%	78.5%	85.7%	92.8%	100%	107.1%
7-1/2"	26.6%	33.3%	40%	46.6%	53.3%	60%	66.6%	73.3%	80%	86.6%	93.3%	100%
8"	25%	31.2%	37.5%	43.7%	50%	56.2%	62.5%	68.7%	75%	81.2%	87.5%	93.7%
8-1/2"	23.5%	29.4%	35.2%	41.1%	47%	52.9%	58.8%	64.7%	70.5%	76.4%	82.3%	88.2%
9"	22.2%	27.7%	33.3%	38.8%	44.4%	50%	55.5%	61.1%	66.6%	72.2%	77.7%	83.3%
9-1/2"	21%	26.3%	31.5%	36.8%	42.1%	47.3%	52.6%	57.8%	63.1%	68.4%	73.6%	78.9%
10"	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
10-1/2"	19%	23.8%	28.5%	33.3%	38%	42.8%	47.6%	52.3%	57.1%	61.9%	66.6%	71.4%
11"	18.1%	22.7%	27.2%	31.8%	36.3%	40.9%	45.4%	50%	54.5%	59%	63.6%	68.1%
11-1/2"	17.3%	21.7%	26%	30.4%	34.7%	39.1%	43.4%	47.8%	52.1%	56.5%	60.8%	65.2%
12"	16.6%	20.8%	25%	29.1%	33.3%	37.5%	41.6%	45.8%	50%	54.1%	58.3%	62.5%

Desired Finished Block Sizes 8" to 12" on page 119.

REDUCING AND ENLARGING BLOCKS

Original Finished Block Size	Desired Finished Block Size – 8" to 12"								
	8"	8-1/2"	9"	9-1/2"	10"	10-1/2"	11"	11-1/2"	12"
2"	400%	425%	450%	475%	500%	525%	550%	575%	600%
2-1/2"	320%	340%	360%	380%	400%	420%	440%	460%	480%
3"	266.6%	283.3%	300%	316.6%	333.3%	350%	366.6%	383.3%	400%
3-1/2"	228.5%	242.8%	257.1%	271.4%	285.7%	300%	314.2%	328.5%	342.8%
4"	200%	212.5%	225%	237.5%	250%	262.5%	275%	287.5%	300%
4-1/2"	177.7%	188.8%	200%	211.1%	222.2%	233.3%	244.4%	255.5%	266.6%
5"	160%	170%	180%	190%	200%	210%	220%	230%	240%
5-1/2"	145.4%	154.5%	163.6%	172.7%	181.8%	190.9%	200%	209%	218.1%
6"	133.3%	141.6%	150%	158.3%	166.6%	175%	183.3%	191.6%	200%
6-1/2"	123%	130.7%	138.4%	146.1%	153.8%	161.5%	169.2%	176.9%	184.6%
7"	114.2%	121.4%	128.5%	135.7%	142.8%	150%	157.1%	164.2%	171.4%
7-1/2"	106.6%	113.3%	120%	126.6%	133.3%	140%	146.6%	153.3%	160%
8"	100%	106.2%	112.5%	118.7%	125%	131.2%	137.5%	143.7%	150%
8-1/2"	94.1%	100%	105.8%	111.7%	117.6%	123.5%	129.4%	135.2%	141.1%
9"	88.8%	94.4%	100%	105.5%	111.1%	116.6%	122.2%	127.7%	133.3%
9-1/2"	84.2%	89.4%	94.7%	100%	105.2%	110.5%	115.7%	121%	126.3%
10"	80%	85%	90%	95%	100%	105%	110%	115%	120%
10-1/2"	76.1%	80.9%	85.7%	90.4%	95.2%	100%	104.7%	109.5%	114.2%
11"	72.7%	77.2%	81.8%	86.3%	90.9%	95.4%	100%	104.5%	109%
11-1/2"	69.5%	73.9%	78.2%	82.6%	86.9%	91.3%	95.6%	100%	104.3%
12"	66.6%	70.8%	75%	79.1%	83.3%	87.5%	91.6%	95.8%	100%

Desired Finished Block Sizes 2" to 7-1/2" on page 118.

CONVERTING YARDS TO INCHES TO DECIMALS TO METRES

1/8 yard = 4-1/2 inches = .125 decimals = .114 metres

1/4 yard = 9 inches = .25 decimals = .229 metres

1/3 yard = 12 inches = .333 decimals = .304 metres

3/8 yard = 13-1/2 inches = .375 decimals = .343 metres

1/2 yard = 18 inches = .50 decimals = .457 metres

5/8 yard = 22-1/2 inches = .625 decimals = .572 metres

2/3 yard = 24 inches = .666 decimals = .610 metres

3/4 yard = 27 inches = .75 decimals = .686 metres

7/8 yard = 31-1/2 inches = .875 decimals = .8 metres

1 yard = 36 inches = 1.00 decimals = .914 metres

Fat Eighth = 9 x 22 inches = .25 x .575 decimals = .229 x .56 metres

Fat Quarter = 18 x 22 inches = .50 x .575 decimals = .457 x .56 metres

NUMBER OF SQUARES FROM SPECIFIC FABRIC YARDAGE

Size of Squares	Fabric Yardage							
	1/4 yard	1/2 yard	3/4 yard	1 yard	1-1/4 yards	1-1/2 yards	1-3/4 yards	2 yards
2"	80	180	260	360	440	540	620	720
2-1/2"	48	112	160	224	288	336	400	448
3"	39	78	117	156	195	236	273	312
3-1/2"	22	44	77	110	132	165	198	220
4"	20	40	60	90	110	130	150	180
4-1/2"	18	36	54	72	90	108	126	144
5"	8	24	40	56	72	80	96	112
5-1/2"	7	21	28	42	56	63	77	91
6"	6	18	24	36	42	54	60	72
6-1/2"	6	12	24	30	36	48	54	66
7"	5	10	15	25	30	35	45	60
7-1/2"	5	10	15	20	30	35	40	45
8"	5	10	15	20	25	30	35	45
8-1/2"	4	8	12	16	20	24	28	32
9"	4	8	12	16	20	24	28	32
9-1/2"	x	4	8	12	16	20	24	28
10"	x	4	8	12	16	20	24	28
10-1/2"	x	3	6	9	12	18	15	18
11"	x	3	6	9	12	12	15	18
11-1/2"	x	3	6	9	9	12	15	18
12"	x	3	6	9	9	12	15	18

Number of squares is based on 42"-wide fabric. You may get more squares if using 44"-wide fabric.
Remove the selvages before cutting your squares.

STANDARD MATTRESS AND QUILT SIZES

	Crib	Youth	Twin	Full	Queen	King
Mattress Size	27"x52"	32"x66"	39"x75"	54"x75"	60"x80"	76"x80"
Quilt (will cover mattress)	36"x60"	56"x78"	63"x87"	78"x87"	84"x92"	106"x98"
Bedspread (will cover bed with drop close to floor)	NA	74"x97"	81"x106"	96"x106"	102"x111"	120"x115"

When making a quilt for a specific bed, measure the mattress and determine how much of a drop you want.

NUMBER OF HALF-SQUARE TRIANGLES FROM SPECIFIC FABRIC YARDAGE

Finished Triangle Size	Width of Strip	Fabric Yardage							
		1/4 yard	1/2 yard	3/4 yard	1 yard	1-1/4 yards	1-1/2 yards	1-3/4 yards	2 yards
2"	2-7/8"	84	168	252	336	420	504	588	700
2-1/2"	3-3/8"	48	120	192	240	312	384	432	504
3"	3-7/8"	40	80	120	180	220	260	320	360
3-1/2"	4-3/8"	36	72	108	144	180	216	252	288
4"	4-7/8"	16	48	80	112	144	176	192	224
4-1/2"	5-3/8"	14	42	70	84	112	140	154	182
5"	5-7/8"	14	42	56	84	98	126	140	168
5-1/2"	6-3/8"	12	24	48	60	84	96	108	132
6"	6-7/8"	12	24	36	60	72	84	108	120
6-1/2"	7-3/8"	10	20	30	40	60	70	80	90
7"	7-7/8"	10	20	30	40	50	60	80	90
7-1/2"	8-3/8"	10	20	30	40	50	60	70	80
8"	8-7/8"	8	16	24	32	40	48	56	64
8-1/2"	9-3/8"	x	8	16	24	32	40	48	56
9"	9-7/8"	x	8	16	24	32	40	48	56
9-1/2"	10-3/8"	x	8	16	24	32	40	48	48
10"	10-7/8"	x	6	12	18	24	24	30	36
10-1/2"	11-3/8"	x	6	12	18	18	24	30	36
11"	11-7/8"	x	6	12	18	18	24	30	36
11-1/2"	12-3/8"	x	6	12	12	18	24	30	30
12"	12-7/8"	x	6	12	12	18	24	24	30

Number of triangles is based on 42"-long strips. Remove the selvages before cutting.

A 1/4" seam allowance is included.

NUMBER OF STRIPS FROM FAT QUARTERS (18" x 22")

Size of Strips	Number of Strips
2"	8
2-1/2"	6
3"	6
3-1/2"	5
4"	4
4-1/2"	4
5"	3
5-1/2"	3
6"	3
6-1/2"	2

Number of strips is based on straightening your fabric and removing the selvages before cutting.

NUMBER OF SQUARES FROM FAT QUARTERS (18" x 22")

Size of Squares	Number of Squares
2"	99
2-1/2"	56
3"	42
3-1/2"	30
4"	20
4-1/2"	16
5"	12
5-1/2"	12
6"	9
6-1/2"	6

Charts

SETTING BLOCKS

When determining the measurement of a setting block, add 1/2" to the finished block size. This will allow for 1/4" seam allowances.

Setting Block Size	Finished Block Size
2-1/2"	2"
3"	2-1/2"
3-1/2"	3"
4"	3-1/2"
4-1/2"	4"
5"	4-1/2"
5-1/2"	5"
6"	5-1/2"
6-1/2"	6"
7"	6-1/2"
7-1/2"	7"
8"	7-1/2"
8-1/2"	8"
9"	8-1/2"
9-1/2"	9"
10"	9-1/2"
10-1/2"	10"
11"	10-1/2"
11-1/2"	11"
12"	11-1/2"
12-1/2"	12"

HALF-SQUARE TRIANGLE BLOCKS

When figuring the dimension of a half-square triangle block, add 7/8" to both the height and the length of the desired finished size half-square triangle block.

Half-Square Triangles, Cut Block	Finished Block Size
2-7/8"	2"
3-3/8"	2-1/2"
3-7/8"	3"
4-3/8"	3-1/2"
4-7/8"	4"
5-3/8"	4-1/2"
5-7/8"	5"
6-3/8"	5-1/2"
6-7/8"	6"
7-3/8"	6-1/2"
7-7/8"	7"
8-3/8"	7-1/2"
8-7/8"	8"
9-3/8"	8-1/2"
9-7/8"	9"
10-3/8"	9-1/2"
10-7/8"	10"
11-3/8"	10-1/2"
11-7/8"	11"
12-3/8"	11-1/2"
12-7/8"	12"

QUARTER-SQUARE TRIANGLE BLOCKS

When figuring the dimension of a quarter-square triangle block, add 1-1/4" to the desired finished size of the longest side of the quarter-square triangle.

Quarter-Square Triangles, Cut Block	Finished Block Size
3-1/4"	2"
3-3/4"	2-1/2"
4-1/4"	3"
4-3/4"	3-1/2"
5-1/4"	4"
5-3/4"	4-1/2"
6-1/4"	5"
6-3/4"	5-1/2"
7-1/4"	6"
7-3/4"	6-1/2"
8-1/4"	7"
8-3/4"	7-1/2"
9-1/4"	8"
9-3/4"	8-1/2"
10-1/4"	9"
10-3/4"	9-1/2"
11-1/4"	10"
11-3/4"	10-1/2"
11-1/4"	11"
12-3/4"	11-1/2"
13-1/4"	12"

Formulas

FORMULA TO DETERMINE THE LENGTH OF MITERED BORDERS:

Top and bottom border strips

$$\begin{aligned}
 & \text{___} \text{ " (quilt top width)} \\
 + & \text{___} \text{ " (width of two border strips)} \\
 + & \text{1/2} \text{ " (seam allowance)} \\
 + & \text{6} \text{ " (just in case)} \\
 = & \text{___} \text{ " top and bottom border strips}
 \end{aligned}$$

Side border strips

$$\begin{aligned}
 & \text{___} \text{ " (quilt top length)} \\
 + & \text{___} \text{ " (width of two border strips)} \\
 + & \text{1/2} \text{ " (seam allowance)} \\
 + & \text{6} \text{ " (just in case)} \\
 = & \text{___} \text{ " side border strips}
 \end{aligned}$$

FORMULA TO DETERMINE THE NUMBER OF SCALLOPS ON QUILT TOP:

Top and bottom scallops

$$\begin{aligned}
 & \text{___} \text{ " (quilt top width)} \\
 \div & \text{___} \text{ " (width of scallops)} \\
 = & \text{___} \text{ top and bottom scallops}
 \end{aligned}$$

Side scallops

$$\begin{aligned}
 & \text{___} \text{ " (quilt top length)} \\
 \div & \text{___} \text{ " (width of scallops)} \\
 = & \text{___} \text{ side scallops}
 \end{aligned}$$

DIAGONAL BLOCK MEASUREMENTS

When determining the diagonal measurement of a block, multiply the finished block size by 1.414. This will be helpful when figuring the size of your quilt top.

Finished Block Size	Diagonal Measurement
2"	2-7/8"
2-1/2"	3-1/2"
3"	4-1/4"
3-1/2"	5"
4"	5-5/8"
4-1/2"	6-3/8"
5"	7-1/8"
5-1/2"	7-7/8"
6"	8-1/2"
6-1/2"	9-1/4"
7"	10"
7-1/2"	10-5/8"
8"	11-3/8"
8-1/2"	12-1/8"
9"	12-3/4"
9-1/2"	13-1/2"
10"	14-1/4"
10-1/2"	14-7/8"
11"	15-5/8"
11-1/2"	16-3/8"
12"	17"

SIDE SETTING TRIANGLE BLOCKS

When determining the size of side setting triangle blocks, multiply the finished block size by 1.414 and add 1.25" for the seam allowance.

Side Setting Triangle Blocks	Finished Block Size
4-1/8"	2"
4-3/4"	2-1/2"
5-1/2"	3"
6-1/4"	3-1/2"
7"	4"
7-5/8"	4-1/2"
8-3/8"	5"
9-1/8"	5-1/2"
9-3/4"	6"
10-1/2"	6-1/2"
11-1/4"	7"
11-7/8"	7-1/2"
12-5/8"	8"
13-3/8"	8-1/2"
14"	9"
14-3/4"	9-1/2"
15-1/2"	10"
16-1/8"	10-1/2"
16-7/8"	11"
17-5/8"	11-1/2"
18-1/4"	12"

CORNER SETTING TRIANGLE BLOCKS

When determining the size of corner setting triangle blocks, divide the finished block size by 1.414 and add .875 for the seam allowance.

Corner Setting Triangle Blocks	Finished Block Size
2-3/8"	2"
2-5/8"	2-1/2"
3"	3"
3-3/8"	3-1/2"
3-3/4"	4"
4-1/8"	4-1/2"
4-1/2"	5"
4-7/8"	5-1/2"
5-1/8"	6"
5-1/2"	6-1/2"
5-7/8"	7"
6-1/4"	7-1/2"
6-5/8"	8"
7"	8-1/2"
7-1/4"	9"
7-5/8"	9-1/2"
8"	10"
8-3/8"	10-1/2"
8-3/4"	11"
9"	11-1/2"
9-3/8"	12"

FORMULA TO DETERMINE THE AMOUNT OF BACKING FABRIC NEEDED:

$$\begin{array}{r}
 \text{---}'' \text{ (quilt top length)} \\
 + 4'' \text{ (for extra backing)} \\
 \div 36'' \\
 = \text{---} \text{ yards} \\
 \times 2 \\
 = \text{---} \text{ yards backing fabric} \\
 \text{(round up to nearest } 1/4 \text{ yard)}
 \end{array}$$

FORMULA TO DETERMINE THE SIZE OF HANGING SLEEVE NEEDED:

$$\begin{array}{r}
 \text{---}'' \text{ (width of quilt)} \\
 + \frac{\text{---}}{2}'' \\
 = \text{---}'' \text{ (length of fabric strip to cut)}
 \end{array}$$

Cut fabric strip 8" wide x length determined above

FORMULA TO DETERMINE THE NUMBER OF BINDING STRIPS NEEDED:

$$\begin{array}{r}
 \text{---}'' \text{ (top, bottom \& side measurements of quilt)} \\
 + 12'' \text{ (just in case)} \\
 \div 40'' \text{ (usable fabric)} \\
 = \text{---} \text{ (number of binding strips needed; round up if needed)}
 \end{array}$$

FORMULA TO DETERMINE THE SIZE OF HANGING SLEEVES NEEDED FOR A 60" OR WIDER QUILT TOP:

$$\begin{array}{r}
 \text{---}'' \text{ (width of quilt)} \\
 \div 3 \text{ (number of hanging sleeves)} \\
 + 2'' \\
 = \text{---}'' \text{ (length of fabric strips to cut)}
 \end{array}$$

Cut three fabric strips 8" wide x length determined above.

If you choose to add more hanging sleeves, use the same formula to determine the measurements.

Formulas

NUMBER OF QUARTER-SQUARE TRIANGLES FROM SPECIFIC FABRIC YARDAGE

Finished Triangle Size	Width of Strip	Fabric Yardage							
		1/4 yard	1/2 yard	3/4 yard	1 yard	1-1/4 yards	1-1/2 yards	1-3/4 yards	2 yards
2"	3-1/4"	96	240	384	528	624	768	912	1056
2-1/2"	3-3/4"	88	176	308	396	528	616	704	836
3"	4-1/4"	72	144	216	288	360	432	504	576
3-1/2"	4-3/4"	32	96	160	224	288	352	416	480
4"	5-1/4"	32	96	160	192	256	320	384	416
4-1/2"	5-3/4"	28	84	112	168	196	252	280	336
5"	6-1/4"	24	48	96	120	168	192	240	264
5-1/2"	6-3/4"	24	48	96	120	144	192	216	240
6"	7-1/4"	20	40	60	80	120	140	160	180
6-1/2"	7-3/4"	20	40	60	80	100	120	160	180
7"	8-1/4"	20	40	60	80	120	120	140	160
7-1/2"	8-3/4"	16	32	48	64	80	96	112	128
8"	9-1/4"	x	16	32	48	64	80	96	112
8-1/2"	9-3/4"	x	16	32	48	64	80	96	112
9"	10-1/4"	x	16	32	48	64	80	96	112
9-1/2"	10-3/4"	x	12	24	36	48	60	60	72
10"	11-1/4"	x	12	24	36	48	48	60	72
10-1/2"	11-3/4"	x	12	24	36	36	48	60	72
11"	12-1/4"	x	12	24	24	36	48	60	72
11-1/2"	12-3/4"	x	12	24	24	36	48	48	60
12"	13-1/4"	x	12	24	24	36	48	48	60

Number of triangles is based on 42"-long strips. Remove the selvages before cutting.
A 1/4" seam allowance is included.

French-fold Binding Strips

(cut strips four times wider than the desired finished binding width and add 1/2" for seam allowances)

Desired Finished Size	Cut Strips
1/4"	1-1/2"
3/8"	2"
1/2"	2-1/2"
5/8"	3"
3/4"	3-1/2"
7/8"	4"

Triple-fold Bias Strips

(cut strips three times wider than the desired finished width of the vine or stems)

Desired Finished Size	Cut Strips
3/8"	1-1/8"
1/2"	1-1/2"
5/8"	1-3/4"
3/4"	2"
1"	3"