Pole Tent Layout & Squaring Matrix

Diagonal measurements based on 7' tall side poles with a 5' stake line

Length of Tent	Width of Tent					
	20 ft. wide	30 ft. wide	40 ft. wide	50 ft. wide	60 ft. wide	80 ft. wide
	Diagonal measurements in feet and inches					
20 ft.	42-5					
30 ft.	50-0	56-7				
40 ft.	58-4	64-0	70-9			
45 ft.	62-8	68-0	74-4			
50 ft.	67-1	72-1	78-1	84-10		
60 ft.	76-2	80-7	86-0	92-2	98-6	
70 ft.	85-5	89-5	94-4	100-0	106-4	
75 ft.	90-2	93-11	98-7	104-1	110-1	
80 ft.	94-10	98-6	102-11	108-2	114-0	127-3
90 ft.	104-5	107-8	111-10	116-7	122-1	134-6
100 ft.	114-0	117-1	120-10	125-4	130-5	142-2
110 ft.	123-8	126-6	130-0	134-2	138-11	150-0
120 ft.	133-5	136-0	139-3	143-2	147-8	158-1
130 ft.	143-2	145-7	148-8	152-4	156-6	166-5
140 ft.	153-0	155-3	158-1	161-7	165-6	174-11
150 ft.	162-9	164-11	167-7	170-11	174-8	183-6
160 ft.	172-8	174-8	177-2	180-3	183-10	192-4
170 ft.	182-6	184-5	186-10	189-9	193-2	202-3
180 ft.	192-4	194-2	196-6	199-3	202-6	210-3
190 ft.	202-3	204-0	206-2	208-10	211-11	219-4
200 ft.	212-2	213-9	215-10	218-5	221-4	228-6
210 ft.	222-0	223-7	225-7	228-0	230-10	237-8
220 ft.	231-11	233-5	235-4	237-8	240-5	247-0
250 ft.	261-9	263-1	264-9	266-10	269-3	275-2

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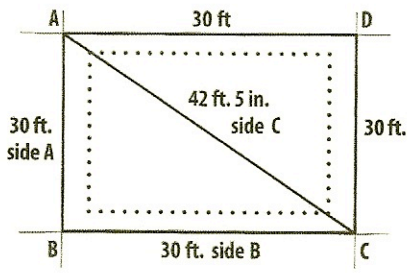
Example 20' x 20' tent

Solid line represents 5' stake line.
Dotted line is tent perimeter.



The numbers on top of this matrix represent the diagonal measurement required to square the stake line for a pole tent.

Step 1. Take the "0" end of 2 tape measures and anchor them in to the ground at the first corner of the stake line. Call this Position A.

Step 2. Take the first tape and draw it out to the width dimension of the tent plus 10 ft. and anchor it to the ground. Call this position B.

Step 3. Take the same tape, add the length dimension of the tent plus 10 ft. to the existing width dimension and turn 90 degrees. Draw the tape out to that measurement.

Step 4. Take the second tape already anchored at position A and draw it out to the diagonal measurement, as specified by the width and length of the tent in the chart above. Where this measurement, and the first tape intersect is position C.

Step 5. Anchor the first tape to the ground at position C, then draw out the second tape to the same measurement as the first tape and attach it to position C.

Step 6. Take the second tape and draw it toward position D stretching it tight and anchoring it to the ground at the length dimension plus 10 ft.

You now have a square stake line and can mark all the stake positions for installation.
Tip: Keep a can of spray paint handy to mark your stake positions.

For tent sizes not listed, use the Pythagorean Theorem where side A is the width of the stake line, side B is the length of the stake line, and side C is the diagonal.

Example 20'x 20' tent A2 + B2 = C2. C= the square root of C2

A2 = (30*30=900) B2 = (30*30=900) C2 = (900+900=1800) C = (square root of 1800)