

## Foolproof Octagon Layout

by Harvey Edwards

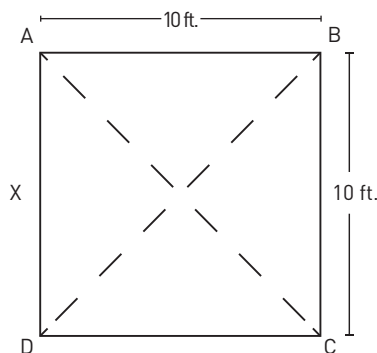
Whether you're building a concrete patio, a deck, or an elegant pergola, if it's in the shape of an octagon, the layout will be more challenging than for a rectangular structure. But there's no reason to fear the trigonometry; instead,

follow this process using these three multipliers to help lay out the sides. ❖

*A former builder, Harvey Edwards currently works as a theater set carpenter in Loami, Ill.*

### Multiplier #1 = 1.4142

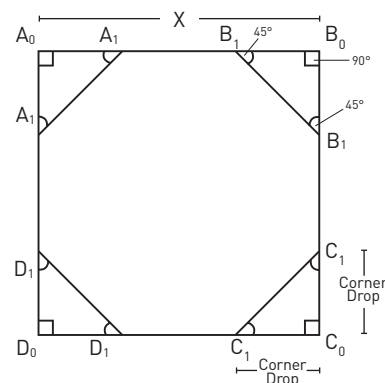
diagonal (AC, BD) = side X x 1.4142  
 = 10 x 1.4142  
 = 14.142  
 or 14 ft. 1 11/16 in.



1. Stake out the corners of the square footprint of the octagon with batter boards and string lines where it will be located. To check for square, measure the diagonals (AC and BD). The length of a diagonal equals the length of a side of the square multiplied by 1.4142.

### Multiplier #2 = 0.2929

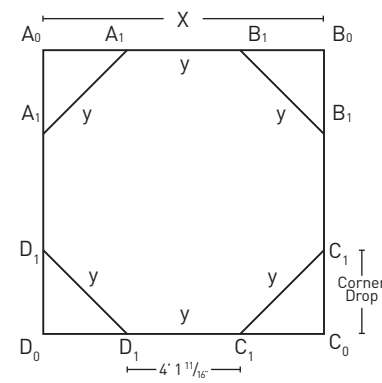
$A_0 - A_1$  = side X x 0.2929  
 = 10 x 0.2929  
 = 2.929  
 or 2 ft. 11 1/8 in.



2. To find the corner drop (the distance from the corner of the square  $A_0$  to the octagon corner  $A_1$ ), multiply the length of side X by 0.2929.

### Multiplier #3 = 0.4142

side of octagon (y) = side X x 0.4142  
 = 10 x 0.4142  
 = 4.142  
 or 4 ft. 1 11/16 in.



3. When staking out the eight corners of the octagon, multiply the length of side X by 0.4142 to verify that each side of the octagon is equally sized and the corners are properly located.

## Send Us Your Tips

We want your best deck-building tips and are partnering with different tool manufacturers to give away a power tool to the reader who sends the best tip to [prodeck@hanleywood.com](mailto:prodeck@hanleywood.com). The prize for the March 2020 issue is a Camo Drive three-way stand-up fastener tool. So, write up those tips. Don't sweat the grammar or the spelling—that's what editors get paid for. Take a photo (your camera's best setting, please), or send a sketch on the back of a napkin.

