

## Geometry: Excavator

John Sawyer Excavation

Job Description: Digging foundations for businesses and houses

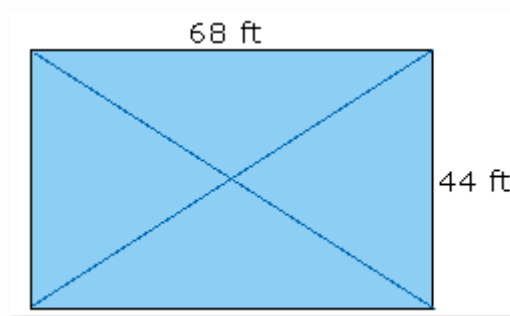
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### Problem:

The following problem is used to make sure houses and buildings are "square" (sides form right angles).

If the length of one side of your house is 44 feet and the adjacent side is 68 feet, show that all corners form 90-degree angles.

The diagonals of a rectangle have equal measure. Show that the diagonals of the following figures are equivalent.



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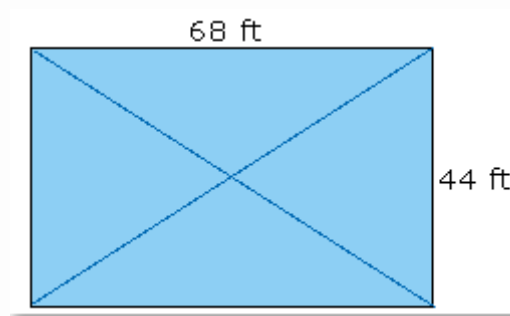
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### Solution:

Use the Pythagorean Theorem.

$$44^2 + 68^2 = x^2$$

$$\sqrt{6560} = x$$

$$80.99 = x$$

$$81 \text{ ft.} = x$$

If this number is equal to the length of your diagonals when measured, you will have 90-degree angles.