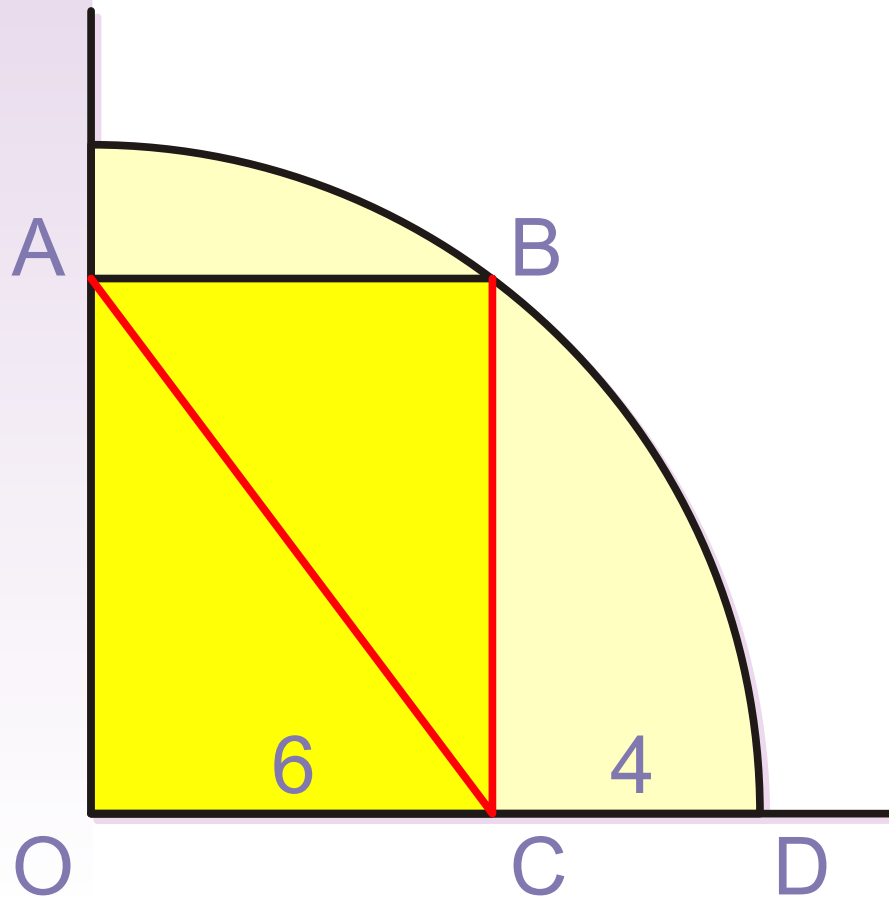


Treasure of Classic  
and Modern Puzzles

## Geometrical Puzzles



### Rectangle Around

*after Martin Gardner*

A rectangle is inscribed in the quadrant of a circle as shown in the illustration. Given some distances indicated, can you accurately determine the length of the diagonal AC?

A little extra question: can you also determine the length of the rectangle's side BC?

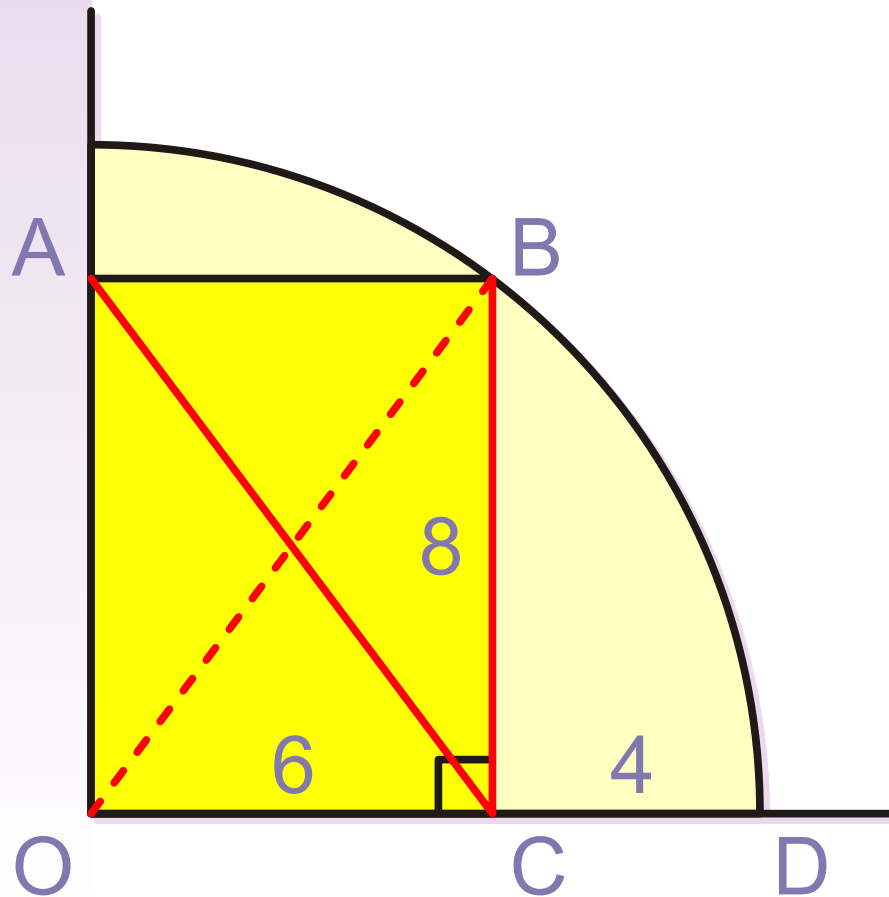
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## Geometrical Puzzles



### Rectangle Around (solution)

The line AC is one diagonal of the rectangle. As it can be seen from the illustration the other its diagonal BO is exactly equal to the radius of the circle, i.e. OC plus CD, 6 plus 4, or 10 units. Since the diagonals of a rectangle are equal, AC is 10 units long too.

Using the Pythagorean Theorem it can be figured out that the side BC is 8 units long ( $10^2 - 6^2 = 8^2$ ).