# 103505In the given figure, when each of the outer circles have radii r, then the radius of the inner circle will be:

## ANSWER

## Let the radius of the four circle ′r′. Each side of the square is 2r.

## ∴  Distance from top right circle to bottom left circle =(2r)2+(2r)2​

## =2(2r)2​

## =22​r

## Now, take away the parts of that distance that overlap with the two outer circles =22​r−2r, since the part taken out of that distance from the two circles was their common radius twice.

## This distance is the diameter of inner circle.

## So, radius of inner circle =22r(2​−1)​=r(2​−1)

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