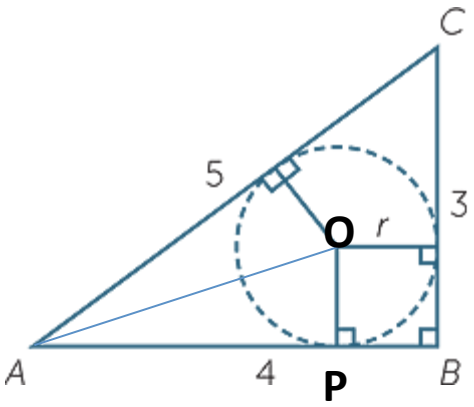
August 12th

What is the radius of the inscribed circle of a 3,4,5 right-angled triangle?



In triangle ABC

tan (ABC) = ¾

Hence angle ABC = $\tan^{-1} 0.75$

By symmetry, angle OAP = ½ $\tan^{-1} 0.75$

But in triangle OAP, tan OAP = $\frac{r}{4-r}$

tan OAP = tan (½ $\tan^{-1} 0.75$) = $\frac{1}{3}$

Hence

$\frac{r}{4-r} = \frac{1}{3}$

$3r = 4 - r$

Hence the **radius is 1**