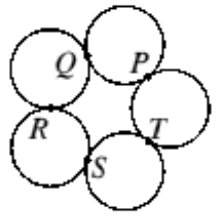




14. Five touching circles each have radius 1 and their centres are at the vertices of a regular pentagon. What is the radius of the circle through the points of contact P, Q, R, S and T ?

- A $\tan 18^\circ$ B $\tan 36^\circ$ C $\tan 45^\circ$ D $\tan 54^\circ$ E $\tan 72^\circ$



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14. **D** The internal angle of a regular pentagon is 108° . Let A be the centre of a touching circle, as shown. Since OA bisects $\angle RAQ$, $\angle OAQ = 54^\circ$. Also, triangle OAQ is right-angled at Q (radius perpendicular to tangent). Since $AQ = 1$, $OQ = \tan 54^\circ$.

