

# Crux Mathematicorum



Canadian Mathematical Society

<http://cms.math.ca/crux/v23/n3/page170-192.pdf>

**2137.** [1996: 124, 317; 1997: 48] *Proposed by Aram A. Yagubyan, Rostov na Donu, Russia.*

Three circles of (equal) radius  $t$  pass through a point  $T$ , and are each inside triangle  $ABC$  and tangent to two of its sides. Prove that:

- (i)  $t = \frac{rR}{R+r}$ ,      (ii)  $T$  lies on the line segment joining the centres of the circumcircle and the incircle of  $\triangle ABC$ .