



如圖。H 為銳角三角形之垂心。

$$\overline{AE} = \overline{AH} \cos \angle EAH = \overline{AH} \sin \angle ACB$$

且 $\overline{AE} = \overline{AB} \cos \angle CAB$ ，

則 $\overline{AH} \sin \angle ACB = \overline{AB} \cos \angle CAB$

$$\overline{AH} = \frac{\overline{AB}}{\sin \angle ACB} \cdot \cos \angle CAB = 2R \cos \angle CAB \quad (R \text{ 為外接圓半徑})$$

又 $\overline{AH} = \overline{AO} = R$

$$\therefore \cos \angle CAB = \frac{1}{2}$$