

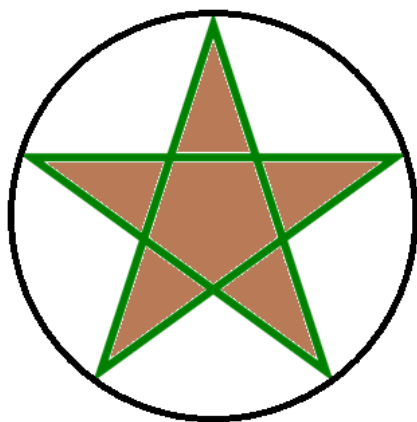
1. In any triangle ABC, prove that:

$$a = b \cos C + c \cos B$$

$$b = c \cos A + a \cos C$$

$$c = a \cos B + b \cos A$$

2. Find the area of the shaded star that is inscribed in a circle with a radius 1.



3. Evaluate:

$$\sin 1^\circ + \sin 2^\circ + \sin 3^\circ + \cdots + \sin 357^\circ + \sin 358^\circ + \sin 359^\circ$$

$$\sin^2 1^\circ + \sin^2 2^\circ + \sin^2 3^\circ + \cdots + \sin^2 357^\circ + \sin^2 358^\circ + \sin^2 359^\circ$$