$\cos^2\theta + \cos^2(60+\theta) + \cos^2(60-\theta) = \dfrac{3}{2}$ dir.

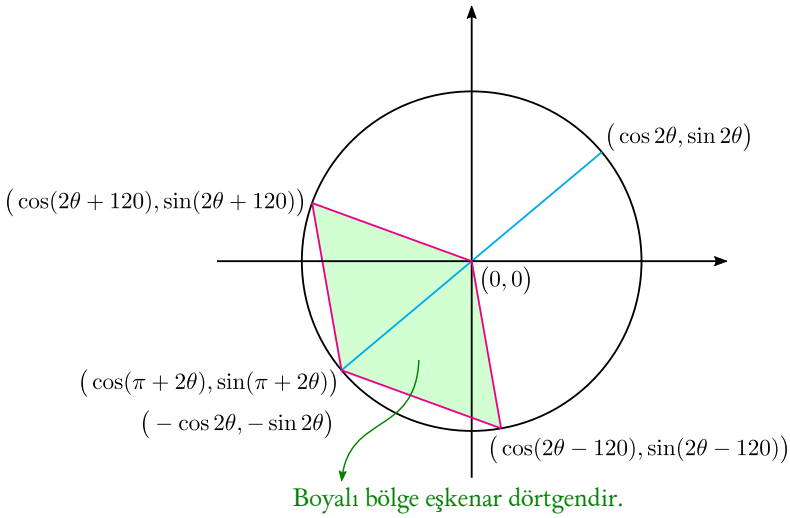
İSPAT:

$$\cos 2\theta = 2\cos^2\theta - 1 \quad \Rightarrow \quad \cos^2\theta = \frac{1+\cos 2\theta}{2}$$

$$\cos 2(60+\theta) = 2\cos^2(60+\theta) - 1 \quad \Rightarrow \quad \cos^2(60+\theta) = \frac{1+\cos(120+2\theta)}{2}$$

$$\cos 2(60-\theta) = 2\cos^2(60-\theta) - 1 \quad \Rightarrow \quad \cos^2(60-\theta) = \frac{1+\cos(120-2\theta)}{2}$$

$$\begin{aligned}\cos^2\theta + \cos^2(60+\theta) + \cos^2(60-\theta) &= \frac{3}{2} + \frac{\cos 2\theta + \overbrace{\cos(2\theta+120) + \cos(2\theta-120)}^{-\cos 2\theta}}{2} \\ &= \frac{3}{2} + \frac{\cos 2\theta - \cos 2\theta}{2} \\ &= \frac{3}{2}\end{aligned}$$



Karşılıklı köşelerdeki apsislerin toplamı eşittir.

$\cos(2\theta+120) + \cos(2\theta-120) = -\cos 2\theta + 0$