Zadatak 9. Dokaži: $\cos 36^\circ - \cos 72^\circ = \frac{1}{2}$.

Rješenje.

$$\begin{aligned}
\cos 36^\circ - \cos 72^\circ &= \frac{1}{2}\\
-2\sin\frac{36^\circ + 72^\circ}{2}\sin\frac{36^\circ - 72^\circ}{2} &= \frac{1}{2}\\
-2\sin 54^\circ \sin(-18^\circ) &= \frac{1}{2}\\
2\sin 54^\circ \sin 18^\circ &= \frac{1}{2}\\
2\cos(90^\circ - 54^\circ)\sin 18^\circ &= \frac{1}{2}\\
2\cos 36^\circ \sin 18^\circ &= \frac{1}{2}\\
\frac{2\cos 36^\circ \sin 18^\circ \cos 18^\circ}{\cos 18^\circ} &= \frac{1}{2}\\
\frac{\cos 36^\circ \sin 36^\circ}{\cos 18^\circ} &= \frac{1}{2}\\
\frac{\frac{1}{2}\sin 72^\circ}{\cos 18^\circ} &= \frac{1}{2}\\
\frac{\frac{1}{2}\cos(90^\circ - 72^\circ)}{\cos 18^\circ} &= \frac{1}{2}\\
\frac{1}{2} &= \frac{1}{2}
\end{aligned}$$