$$
\begin{aligned}
&\sin 2\alpha+\sin 2\beta+\sin 2\gamma-\sin 2(\alpha+\beta+\gamma)= \\
&=2\sin(\alpha+\beta)\cos(\alpha-\beta)+2\cos(\alpha+\beta+2\gamma)\sin(-\alpha-\beta)= \\
&=2\sin(\alpha+\beta)\cos(\alpha-\beta)-2\cos(\alpha+\beta+2\gamma)\sin(\alpha+\beta)= \\
&=2\sin(\alpha+\beta)[\cos(\alpha-\beta)-\cos(\alpha+\beta+2\gamma)]= \\
&=2\sin(\alpha+\beta)[-2\sin(\alpha+\gamma)\sin(-\beta-\gamma)]= \\
&=4\sin(\alpha+\beta)\sin(\alpha+\gamma)\sin(\beta+\gamma).
\end{aligned}
$$

Ha

$$2\alpha+2\beta+2\gamma=180^\circ,$$

akkor

$$\gamma=90^\circ-(\alpha+\beta)\quad \text{és}\quad \sin 2(\alpha+\beta+\gamma)=0$$

és így

$$
\begin{aligned}
&\sin 2\alpha+\sin 2\beta+\sin 2\gamma= \\
&=4\sin(90^\circ-\gamma)\sin(90^\circ-\beta)\sin(90^\circ-\alpha)= \\
&=4\cos\alpha\cos\beta\cos\gamma.
\end{aligned}
$$

(Eicher Jakab, Szekszárd.)