1°. A $\sin^3\alpha = 3\sin\alpha - 4\sin^3\alpha$ képlet alapján:

$$\sin^3\alpha + \sin^3\beta + \sin^3\gamma = \frac{1}{4}\ [3(\sin\alpha + \sin\beta + \sin\gamma) +$$

$$+(-\sin 3\alpha - \sin 3\beta - \sin 3\gamma)] =$$

$$= \frac{1}{4}\{3[2\sin\frac{1}{2}(\alpha+\beta)\cos\frac{1}{2}(\alpha-\beta) + 2\cos\frac{1}{2}(\alpha+\beta)\cos\frac{1}{2}\gamma] +$$

$$+[-2\sin\frac{3}{2}(\alpha+\beta)\cos\frac{3}{2}(\alpha-\beta) - 2\sin\frac{3}{2}\gamma\cos\frac{3}{2}\gamma]\} =$$

$$= \frac{1}{4}[6\cos\frac{\gamma}{2}(\cos\frac{1}{2}(\alpha-\beta) + \cos\frac{1}{2}(\alpha+\beta)) +$$

$$+2\cos\frac{3}{2}\gamma(\cos\frac{3}{2}(\alpha-\beta) + (\cos\frac{3}{2}(\alpha+\beta))] =$$

$$= \frac{1}{4}\left[12\cos\frac{\alpha}{2}\cos\frac{\beta}{2}\cos\frac{\gamma}{2} + 4\cos\frac{3}{2}\alpha\cos\frac{3}{2}\beta\cos\frac{3}{2}\gamma\right] =$$

$$= 3\cos\frac{\alpha}{2}\cos\frac{\beta}{2}\cos\frac{\gamma}{2} + \cos\frac{3\alpha}{2}\cos\frac{3\beta}{2}\cos\frac{3\gamma}{2}.$$

2°. A $\cos^3\alpha = 4\cos^3\alpha - 3\cos\alpha$ képlet alapján:

$$\cos^3\alpha + \cos^3\beta + \cos^3\gamma = \frac{1}{4}[3(\cos\alpha + \cos\beta + \cos\gamma +$$

$$+(\cos 3\alpha + \cos 3\beta + \cos 3\gamma)] =$$

$$= \frac{1}{4}\{3[2\cos\frac{1}{2}(\alpha+\beta)\cos\frac{1}{2}(\alpha-\beta) - 2\sin^2\frac{\gamma}{2} + 1] +$$

$$+2\cos\frac{3}{2}(\alpha+\beta)\cos\frac{3}{2}(\alpha-\beta) - 2\sin^2\frac{3\gamma}{2} + 1\} =$$

$$= \frac{1}{4}\{6\sin\frac{\gamma}{2}[\cos\frac{1}{2}(\alpha-\beta) - \cos\frac{1}{2}(\alpha+\beta)] -$$

$$-2\sin\frac{3\gamma}{2}[\cos\frac{3}{2}(\alpha-\beta) - \cos\frac{3}{2}(\alpha+\beta)] + 4\} =$$

$$= \frac{1}{4}\left[12\sin\frac{\alpha}{2}\sin\frac{\beta}{2}\sin\frac{\gamma}{2} - 4\sin\frac{3\alpha}{2}\sin\frac{3\beta}{2}\sin\frac{3\gamma}{2} + 4\right] =$$

$$= 3\sin\frac{\alpha}{2}\sin\frac{\beta}{2}\sin\frac{\gamma}{2} - \sin\frac{3\alpha}{2}\sin\frac{3\beta}{2}\sin\frac{3\gamma}{2} + 1.$$

*(Sárközy Pál, Pannonhalma.)*