1080 e. Dokazati da za sve prirodne brojeve *n* važi:

$$1^3 + 2^3 + 3^3 + ... + n^3 = \left[\frac{n \cdot (n+1)}{2}\right]^2$$

za n = 1

$$1^3 = \left[\frac{1 \cdot (1+1)}{2}\right]^2; \qquad 1=1$$

za n = k

$$1^3 + 2^3 + 3^3 + ... + k^3 = \left[\frac{k \cdot (k+1)}{2}\right]^2$$

za n = k+1

$$1^3 + 2^3 + 3^3 + ... + k^3 + (k+1)^3 = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\left[\frac{k \cdot (k+1)}{2}\right]^2 + (k+1)^3 = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\frac{k^2 \cdot (k+1)^2}{4} + \frac{4 \cdot (k+1)^3}{4} = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\frac{k^2 \cdot (k+1)^2 + 4 \cdot (k+1)^3}{4} = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\frac{(k+1)^2 \cdot (k^2 + 4 \cdot (k+1))}{4} = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\frac{(k+1)^2 \cdot (k^2 + 4k + 4)}{4} = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\frac{(k+1)^2 \cdot (k+2)^2}{4} = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$

$$\left[\frac{(k+1)\cdot(k+2)}{2}\right]^2 = \left[\frac{(k+1)\cdot(k+2)}{2}\right]^2$$