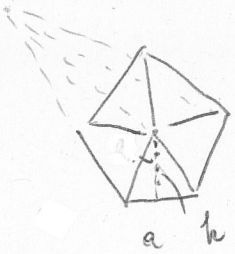
volume dei poliedri regolari

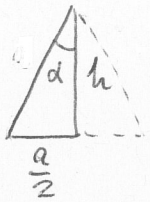


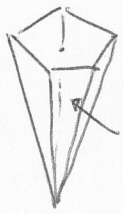
area di una faccia:

$$m \cdot \frac{a}{2} \cdot h = m \cdot \frac{a}{2} \cdot \frac{a}{2} \cot\frac{\pi}{m}$$

$$= m \cdot \frac{a^2}{4} \cdot \cot\frac{\pi}{m}$$

$\alpha = \cot\frac{\pi}{m}$





h': altezza piramide

r: raggio sfera inscritta $\quad r = \cot\frac{\pi}{m} \cot\frac{\pi}{n}$

base altezza

$$V = \frac{1}{3} \cdot B \cdot h' = \frac{1}{3} \cdot m \cdot F \frac{a^2}{4} \cdot r \cot\frac{\pi}{n}$$

$$= \frac{1}{12} m \cdot F \cdot a^2 \cdot r \cdot \cot\frac{\pi}{m}$$

$$\boxed{V = \frac{1}{12} \cdot mF \cdot \cot\frac{\pi}{m} \; a^2 r}$$