

Esercizio n. 411

$$\left[\left(\frac{a+2}{a+3} - \frac{1}{2-a} - \frac{3a-1}{a^2+a-6} \right)^2 \cdot \frac{a^2-9}{3a^2} \right] \cdot \left[\frac{1}{a-3} - \frac{1}{2a} \right] =$$

$$= \left[\left(\frac{a+2}{a+3} - \frac{1}{a-2} - \frac{3a-1}{(a^2+a)-6} \right)^2 \cdot \frac{a^2-9}{3a^2} \right] \cdot \left[\frac{1}{a-3} - \frac{1}{2a} \right] =$$

$$= \left[\left(\frac{((a+2) \cdot (a-2)) - (-1 \cdot (a+3))}{(a+3) \cdot (a-2)} - \frac{3a-1}{a^2+a-6} \right)^2 \cdot \frac{a^2-9}{3a^2} \right] \cdot \left[\frac{2a-(a-3)}{(a-3) \cdot 2a} \right] =$$

$$= \left[\left(\frac{a^2+a-1}{a^2+a-6} - \frac{3a-1}{a^2+a-6} \right)^2 \cdot \frac{a^2-9}{3a^2} \right] \cdot \left[\frac{a+3}{2a^2-6a} \right] =$$

$$= \left[\left(\frac{(a^2+a-1)-(3a-1)}{a^2+a-6} \right)^2 \cdot \frac{a^2-9}{3a^2} \right] \cdot \left[\frac{a+3}{2a^2-6a} \right] =$$

$$= \left[\left(\frac{a}{a+3} \right)^2 \cdot \frac{a^2-9}{3a^2} \right] \cdot \left[\frac{a+3}{2a^2-6a} \right] =$$

$$= \left[\left(\frac{\cancel{a^2}}{(a+3) \cdot (\cancel{a+3})} \right) \cdot \left(\frac{(\cancel{a+3}) \cdot (a-3)}{\cancel{a^2} \cdot 3} \right) \right] \cdot \left[\frac{a+3}{2a^2-6a} \right] =$$

$$= \left[\frac{a-3}{3a+9} \right] \cdot \left[\frac{a+3}{2a^2-6a} \right] =$$

$$= \left(\frac{\cancel{a+3}}{3 \cdot (\cancel{a+3})} \right) \cdot \left(\frac{\cancel{a+3}}{(\cancel{a+3}) \cdot 2a} \right) =$$

$$= \frac{1}{6a}$$