

$$\frac{a-3}{a^2-3a+9} - \frac{6(a-3)}{a^3+27} =$$

$$= \frac{a-3}{a^2-3a+9} - \frac{6(a-3)}{(a+3)(a^2-3a+9)} =$$

$$= \frac{(a^2-9) - 6(a-3)}{(a^2-3a+9)(a+3)} = \frac{(a-3)(a+3-6)}{(a^2-3a+9)(a+3)}$$