

15.

$$\begin{aligned} & \left[\frac{p^2 - q^2}{pq} - \frac{1}{p+q} \cdot \left(\frac{p^2}{q} - \frac{q^2}{p} \right) \right] : \frac{p-q}{p} = \\ & = \left[\frac{p^2 - q^2}{pq} - \frac{1}{p+q} \cdot \left(\frac{p^3 - q^3}{pq} \right) \right] \cdot \frac{p}{p-q} = \\ & = \left(\frac{p^2 - q^2}{pq} - \frac{p^3 - q^3}{pq \cdot (p+q)} \right) \cdot \frac{p}{p-q} = \\ & = \frac{p^2 - q^2(p+q) - (p^3 - q^3)}{pq(p+q)} \cdot \frac{p}{p-q} = \\ & = \frac{\cancel{p^3} + p^2q - pq^2 - \cancel{q^3} - \cancel{p^3} + q^3}{q(p+q)} \cdot \frac{1}{p-q} = \\ & = \frac{pq(p-q)}{q(p+q)(p-q)} = \frac{p}{p+q} \quad \begin{array}{l} p \neq 0 \\ q \neq 0 \\ p \neq \pm q \end{array} \end{aligned}$$