

$$a) \frac{p^2 - q^2}{p^2} \cdot \frac{pq + q^2}{(p+q)^2} = \frac{(p-q)(p+q)q(p+q)}{p^2(p+q)^2} = \frac{q(p-q)}{p^2}$$

$$8) \frac{a^2 - 9b^2}{a^2 - ab} : \frac{a^2 + 3ab}{a - b} = \frac{(a-3b)(a+3b)}{a(a-b)} \cdot \frac{(a-b)}{a(a+3b)} = \frac{a-3b}{a^2}$$

$$b) \frac{3x^2 - 3y^2}{x^2 + xy} \cdot \frac{x+y}{6x-6y} = \frac{3(x-y)(x+y)}{x(x+y)} \cdot \frac{(x+y)}{2(x-y)} = \frac{x+y}{2x}$$

$$2) \frac{m^2 - n^2}{(m+n)^2} : \frac{4m - 4n}{3m + 3n} = \frac{(m-n)(m+n)}{(m+n)^2} \cdot \frac{(m+n)}{4(m-n)} = \frac{3}{4}$$