

$$\frac{x^2 + 6x}{x^2 - 36} = \frac{x(x+6)}{(x-6)(\cancel{x+6})} = \frac{x}{x-6}$$

$$\frac{a^2 - 10a + 25}{a^2 - 5a} = \frac{(a-5)(\cancel{a-5})}{a(\cancel{a-5})} = \frac{a-5}{a}$$

$$\begin{aligned} \frac{a^2 + 5a + ab + 5b}{a^2 - b^2} &= \frac{a(a+b) + 5(a+b)}{(a-b)(a+b)} = \\ &= \frac{(\cancel{a+b})(a+5)}{(a-b)(\cancel{a+b})} = \frac{a+5}{a-b} \end{aligned}$$

$$\begin{aligned} \frac{n^2 - 4n + 4}{mn - 2m - pn + 2p} &= \frac{(n-2)(n-2)}{m(n-2) - p(n-2)} = \\ &= \frac{(\cancel{n-2})(\cancel{n-2})}{(\cancel{n-2})(m-p)} = \frac{n-2}{m-p} \end{aligned}$$