

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

$$b) \quad \frac{5x^2-5}{x-1} = \frac{5(x^2-1)}{x-1} = \frac{5(x-1)(x+1)}{x-1} = 5(x+1)$$

$$c) \quad \frac{x^2+2x+1}{x+1} = \frac{(x+1)^2}{x+1} = x+1$$

$$d) \quad \frac{x^2-8x+16}{x-4} = \frac{x^2-2 \cdot x \cdot 4 + 4^2}{x-4} = \frac{(x-4)^2}{x-4} = x-4$$