

2.4.4

g)

$$\frac{\overset{1}{\cancel{x+2}}}{\underbrace{x^2+7x+10}_{(\cancel{x+2})(x+5)}} - \frac{\overset{1}{\cancel{x-3}}}{\underbrace{x^2-8x+15}_{(\cancel{x-3})(x-5)}} + \frac{x^2-15}{\underbrace{x^2-25}_{(x+5)(x-5)}}$$

$$= \frac{1}{x+5} - \frac{1}{x-5} + \frac{x^2-15}{(x+5)(x-5)}$$

ppmc :  $(x+5)(x-5)$

$$= \frac{x-5}{(x+5)(x-5)} - \frac{x+5}{(x+5)(x-5)} + \frac{x^2-15}{(x+5)(x-5)}$$

$$= \frac{x-5 - (x+5) + x^2-15}{(x+5)(x-5)} = \frac{\cancel{x-5} - \cancel{x-5} + x^2-15}{(x+5)(x-5)}$$

$$= \frac{\cancel{x^2-25}}{\cancel{(x+5)(x-5)}} = 1$$

f)

$$\frac{x-3}{x+3} - \frac{4x-6y}{\underbrace{xy+3y+2x+6}_{y(x+3)+2(x+3)}} + \frac{y+6}{y+2}$$
$$= (x+3)(y+2)$$