10d)

$$\frac{1}{x^2-4x+3} + \frac{1}{x^2-5x+6} - \frac{1}{x^2-3x+2}$$

$$= \frac{1}{(x-3)(x-1)} + \frac{1}{(x-3)(x-2)} - \frac{1}{(x-2)(x-1)}$$

$$= \frac{(x-2)+(x-1)-(x-3)}{(x-3)(x-1)(x-2)}$$

$$= \frac{x}{(x-3)(x-1)(x-2)}$$

14b)

b) $\left(1+\frac{45}{x-8}-\frac{26}{x-6}\right)\left(3-\frac{65}{x+7}+\frac{8}{x-2}\right)$

$= \frac{(x-8)(x-6)+45(x-6)-26(x-8)}{(x-8)(x-6)} \times \frac{3(x+7)(x-2)-65(x-2)+8(x+7)}{(x+7)(x-2)}$

$= \frac{x^2+5x-14}{(x-8)(x-6)} \times \frac{3x^2-42x+144}{(x+7)(x-2)}$

$= \frac{(x+7)(x-2)}{(x-8)(x-6)} \times \frac{3(x-8)(x-6)}{(x+7)(x-2)}$

$= 3$

14c)

$$\left(2-\frac{3n}{m}+\frac{9n^2-2m^2}{m^2+2mn}\right)\div\left(\frac{1}{m}-\frac{1}{m-2n-\frac{4n^2}{m+n}}\right)$$

$$=\left(2-\frac{3n}{m}+\frac{(9n^2-2m^2)}{m(m+2n)}\right)\div\left(\frac{1}{m}-\frac{(m+n)}{m^2+mn-2mn-4n^2}\right)$$

$$=\frac{2m^2+4mn-3mn-6n^2+9n^2-2m^2}{m(m+2n)}\div\left(\frac{1}{m}-\frac{(m+n)}{m^2-mn-6n^2}\right)$$

$$=\frac{3n^2+mn}{m(m+2n)}\div\left(\frac{1}{m}-\frac{(m+n)}{(m-3n)(m+2n)}\right)$$

$$=\frac{n(3n+m)}{m(m+2n)}\times\frac{m(m-3n)(m+2n)}{m^2-mn-6n^2-m^2-mn}$$

$$=\frac{n(3n+m)(m-3n)}{-6n^2-2mn}$$

$$=\frac{n(3n+m)(m-3n)}{-2n(3n+m)}$$

$$=\frac{3n-m}{2}$$