a)

$$1+\frac{1-3x}{x-2}-\frac{2x^2+1}{x^2-2x}=\frac{x(x-2)}{x(x-2)}+\frac{x(1-3x)}{x(x-2)}-\frac{2x^2+1}{x(x-2)}=\frac{x^2-2x+x-3x^2-2x^2-1}{x(x-2)}$$
$$=\frac{-4x^2-x-1}{x(x-2)}$$

D=R\{0,2}

b)

$$\frac{x^2-2x-24}{x^2+4x}:\frac{x^2-36}{x^2+7x+6}=\frac{x^2-2x-24}{x(x+4)}:\frac{x^2-36}{(x+1)(x+6)}=$$

Rozkladam x^2+7x+6

Delta=49-24=25

X1=(-7-5)/2=-6

X2=(-7+5)/2=-1

D=R/{-6,-4,-1,0}

Rozkladam $x^2-2x-24$

Delta=4+96=100

X1=(2-10)/2=-4

X2=(2+10)/2=6

$$=\frac{(x+4)(x-6)}{x(x+4)}:\frac{(x-6)(x+6)}{(x+1)(x+6)}=\frac{(x-6)}{x}:\frac{(x-6)}{(x+1)}=\frac{(x-6)}{x}*\frac{(x+1)}{(x-6)}=\frac{1}{x}*\frac{(x+1)}{1}=\frac{(x+1)}{x}$$