

$$d) \quad D_f = \mathbb{R} - \{-5\}$$

$$f'(x) = \left( \frac{2x-3}{x+5} \right)' = \frac{2(x+5) - (2x-3) \cdot 1}{(x+5)^2}$$

$$= \frac{2x+10 - 2x+3}{(x+5)^2} = \frac{13}{(x+5)^2}$$

On voit que  $f'(x) > 0$ , car  $13 > 0$   
et  $(x+5)^2 > 0$  si  $x \neq -5$ .

Tableau de croissance:

+	-5	+
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+		+

Pas de max/min, ni  
de point.



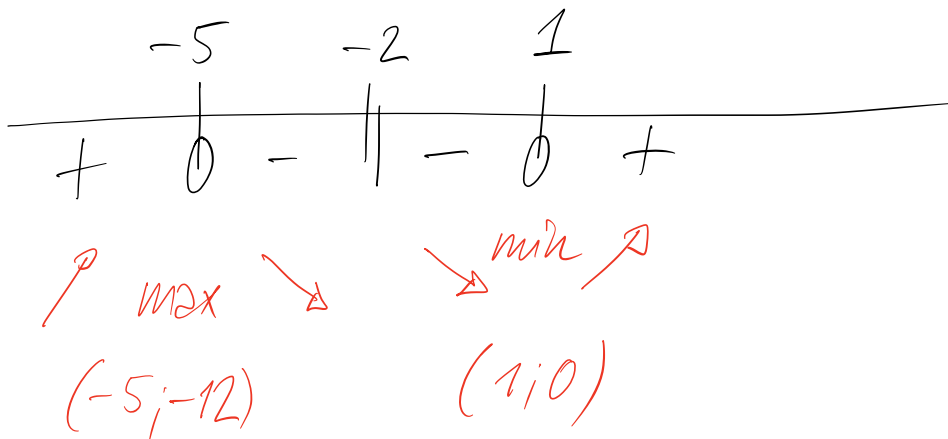
$$e) \quad D_f = \mathbb{R} - \{-2\}$$

$$f'(x) = \frac{2(x-1)(x+2) - (x-1)^2 \cdot 1}{(x+2)^2}$$

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

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

Tableau de croissance (signe de  $f'$ ):

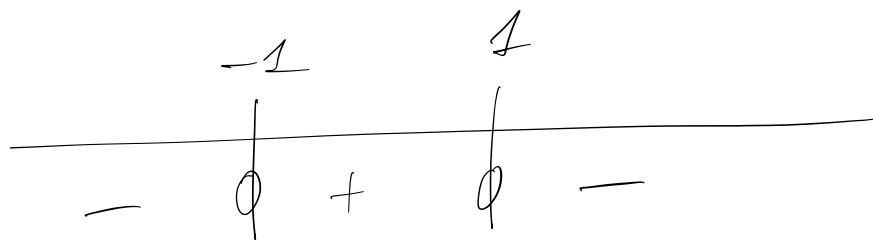


$$f) D_f = \mathbb{R}$$

$$f'(x) = \frac{x^2 + 1 - x \cdot 2x}{(x^2 + 1)^2} = \frac{1 - x^2}{(x^2 + 1)^2}$$

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

Tableau de croissance :



$\swarrow$  min  $\nearrow$  max  $\searrow$   
 $(-1; -\frac{1}{2})$   $(1; \frac{1}{2})$