

Ex 2.2.3

$$b) f(x) = \sqrt{x-1} \sqrt{x-5}$$

$$\text{cond: } \begin{array}{l} x-1 \geq 0 \quad \text{et} \quad x-5 \geq 0 \\ \underline{x \geq 1} \quad \text{et} \quad \underline{x \geq 5} \\ \underbrace{\hspace{10em}} \\ x \geq 5 \end{array}$$

$$\text{ED}(f) = [5; +\infty[$$

$$\begin{array}{l} \text{zéro: } \quad x-1 = 0 \quad \Leftrightarrow \quad x=1 \quad \notin \text{ED}(f) \\ \quad \quad \quad x-5 = 0 \quad \Leftrightarrow \quad x=5 \quad \checkmark \end{array}$$

$$\text{signe: } \begin{array}{c} x \quad | \quad 5 \\ \hline \text{sgn}(f) \quad | \quad / / / / / 0 \quad + \end{array}$$

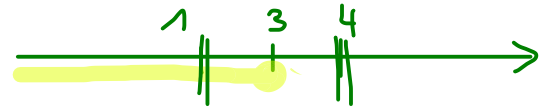
$$d) f(x) = \frac{\sqrt{6-2x}}{x^2-5x+4}$$

$$\text{cond: } 6-2x \geq 0 \quad \text{et} \quad x^2-5x+4 \neq 0$$

$$6 \geq 2x \quad \text{et} \quad (x-4)(x-1) \neq 0$$

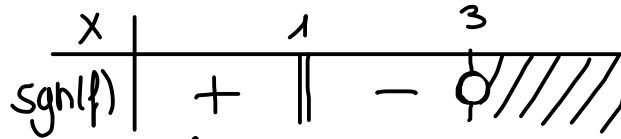
$$\underline{3 \geq x} \quad \text{et} \quad \underline{x \neq 4} \quad \text{et} \quad \underline{x \neq 1}$$

$$\text{ED}(f) =]-\infty; 3] - \{1\}$$



$$\text{zéro: } \sqrt{6-2x} = 0 \Leftrightarrow 6-2x = 0 \Leftrightarrow x = 3$$

v.i: 1



$$f(0) = \frac{\sqrt{6}}{4} = +$$

e) f) et 1.6 h) → j)
(feuille)

$$e) f(x) = \sqrt{\frac{x+1}{x-4}}$$

cond: $\underbrace{\frac{x+1}{x-4}}_{p(x)} \geq 0 \quad x \neq 4$
 zéro: -1

x	$-\infty$	-1		4	$+\infty$
sgn(p)	+	0	-		+

p(1000): $\frac{+}{+}$

$$\text{ED}(f) =]-\infty; -1] \cup]4; +\infty[$$

signe de f

x		-1		4	
sgn(f)	+	0	/ / / /		+

$$f) f(x) = \frac{x^2 + 7x}{\sqrt{1-x^2}} = \frac{x(x+7)}{\sqrt{(1+x)(1-x)}}$$

$$\text{cond: } \underbrace{1-x^2 \geq 0 \text{ et } \sqrt{1-x^2} \neq 0}_{1-x^2 > 0}$$

$$\Rightarrow \underline{ED(f) =]-1; 1[}$$

x	-1	1
$1-x^2$	$-$	$+$

zéro de f : $x(x+7) = 0 \Leftrightarrow x=0$ ou $x=-7$
 $\in ED(f)$ $\notin ED(f)$

signe de f :

x	-1	0	1
f	///	$-$	///

$$f(-0,5) = \frac{0,25 - 3,5}{+} < 0$$