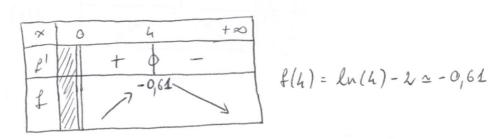
$$f(x) = l_n x - \sqrt{x}$$
 $I =]0; +\infty[$

$$f'(x) = \frac{1}{x} - \frac{1}{2\sqrt{x}}$$
 Since de $f': \frac{1}{x} - \frac{1}{2\sqrt{x}} > 0 \Rightarrow \frac{2 - \sqrt{x}}{2x} > 0$

2-5x>0	2820	× 0		too
- Vx>-2	×> 0	2-12/	+ () -
Vx 62		2× 1/1	+	+
264		1/0	The second secon	

Toplesa de variations:



$$f'(x) = 1 - \frac{5}{x+2}$$
 Signe de $f': 1 - \frac{5}{x+2} > 0 \Rightarrow \frac{x+2-5}{x+2} > 0 \Rightarrow \frac{x-3}{x+2} > 0$

x-3>0	x+270
x>3	x>-2

×	0	3 40
g-3	- (+
0x+2	+	+

Tableau de variations:

×	0	3	10
11	_	ф	+
0	110)		7 f(10)
4	A	£13)	

$$f(0) = 10 - 5 \ln(2)$$

 $f(3) = 13 - 5 \ln(5)$

$$P(1) = 13 - 5 \ln (12)$$

$$f'(x) = 2x - \frac{18}{x}$$
 fine de $f': 2x - \frac{18}{x} > 0 = 2x^2 - 18 > 0 = 2(x^2 - 3) > 0$

=> $\frac{2(x+3)(x-3)}{x}$ > 0 => $\frac{(x+3)(x-3)}{x}$ > 0

-/1220	1 220	1 ~ ~
7+370	×-300 ×>3	1 % >
x>-3	$\times > 3$	1

+00	>		0	ø
	+	+	1/1	x+3
	0 +	-	M	x-3
	+	+	1/1	ox

Tableau de 1 variations:

X	0	3 +10
PI	VAI	- 0 +
f	1/1	J \$(3) /7

$$f(3) = 9 - 18 \ln(3) + 18$$
$$= 27 - 18 \ln(3)$$