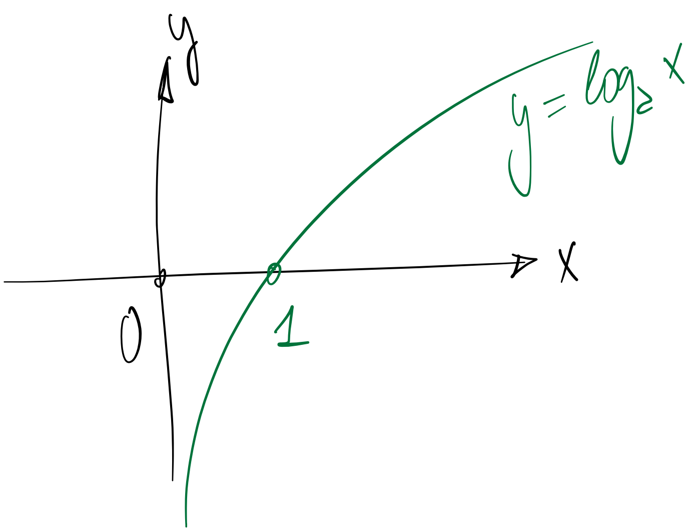
$\ln(m) = \ln(2,4) + 1,84 \cdot h$ 21,8 kg

$$\boxed{5 = 8 + 2 \cdot h}$$

$\log_2 x$ existe si $x > 0$

$x \in \,]0; +\infty[$



$\log_2 E$ existe ssi $\boxed{E > 0}$

signe de E

Pour trouver l'ED d'un log, on détermine le signe de « l'intérieur »

Exemple : ED de $\log_5\left(\boxed{1-x}\right)$

Signe de $1-x$:

$1-x=0 \Leftrightarrow x=1$

x		1	
$1-x$	$+$	0	$-$

$$ED\left(\log_5(1-x)\right) = \left]-\infty\,;\,1\right[$$

$$\frac{x-2}{\sqrt{x}-4} \xrightarrow{x\to 2} \text{«}\frac{2-2}{\sqrt{2}-4}\text{»} = \frac{0}{\sqrt{2}-4} = 0$$

$$\left(2^{1}\cdot 2^{\frac{1}{2}}\right)^{\frac{1}{2}} = \left(2^{1+\frac{1}{2}}\right)^{\frac{1}{2}}$$

$$= \left(2^{\left(\frac{2}{2}+\frac{1}{2}\right)}\right)^{\frac{1}{2}}$$

$$= \left(2^{\frac{3}{2}}\right)^{\frac{1}{2}} = 2^{\frac{3}{4}}$$

$1{,}999\ldots9$

$$\frac{x+1}{x^2-4} \xrightarrow{x \to 2^-} \frac{3}{0^-} = -\infty$$

$(1{,}999)^2 < 2^2$

$(1{,}999)^2 - 4 < 0$

$$\frac{x-5}{x^2-4} \xrightarrow{x \to 2^-} \frac{-3}{0^-} = +\infty$$

$$\log_{25} \frac{1}{125} = \log_{5^2}\left(\frac{1}{5^3}\right) = \log_{5^2} 5^{-3} = -\frac{3}{2}$$

$$\left(5^2\right)^{\frac{1}{2}} = 5^{2 \cdot \frac{1}{2}} = 5^1 \qquad \left(5^2\right)^{-\frac{3}{2}} = 5^{-3}$$

$$\left(5^1\right)^{-3} = 5^{-3}$$

$\boxed{42}$ 8)

$$\ln(u^r) = r\ln(u)$$

$$\ln(x) + \ln(x^2) + \ldots + \ln(x^{20}) =$$

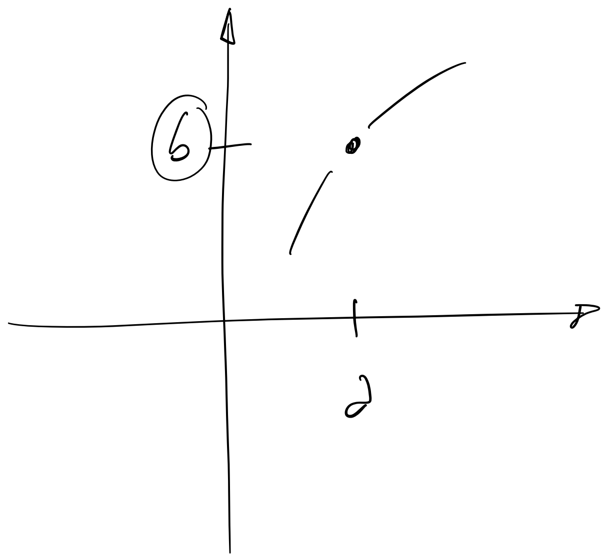
$$\ln x + \ln x^2 + \ln x^3 + \ln x^4 + \ln x^5 + \ln x^6 + \ln x^7 + \ln x^8 + \ldots + \ln x^{20}$$

$$\ln x + 2\ln x + 3\ln x + 4\ln x + 5\ln x + 6\ln x + \ldots + 20\ln x =$$

$$\ln x\cdot(1+2+3+4+5+6+7+\ldots+20) = 210\ln x$$

$$= \boxed{\ln(x^{210})}$$

$$\boxed{\lim_{x\to a} f(x) = 6}$$



$a = 2$

$b = 3$

$$f(x) = \frac{}{x-a}$$

$$f(x) = \frac{x-2}{x-2}\cdot 3 = \frac{3x-6}{x-2}$$

$$\frac{\sqrt{1+x}-1}{x} \xrightarrow{x\to 0} «\frac{0}{0}» \quad \text{IND.}$$

$$\frac{\sqrt{1+x}-1}{x}\cdot\frac{\sqrt{1+x}+1}{\sqrt{1+x}+1}=\frac{\left(\sqrt{1+x}\right)^2-1}{x\left(\sqrt{1+x}+1\right)}$$

$$\frac{A-B}{x}\cdot\frac{A+B}{A+B}=\frac{A^2-B^2}{x(A+B)}$$

$$\frac{\boxed{\sqrt{x}-1}}{x-1}\cdot\boxed{\frac{\boxed{\sqrt{x}+1}}{\sqrt{x}+1}}_{1}=\frac{\left(\sqrt{x}\right)^2-1^2}{(x-1)\left(\sqrt{x}+1\right)}$$

$$(A+B)(A-B)=A^2-B^2$$

$$=\frac{\cancel{(x-1)}\cdot 1}{\cancel{(x-1)}\left(\sqrt{x}+1\right)}$$

$$=\frac{1}{\sqrt{x}+1}\xrightarrow{x\to 1}\frac{1}{2}$$

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

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

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

$$
\begin{array}{r ccccccc cc}
 & 1 & 2 & 3 & 4 & 5 & 6 & & 19 & 20 \\
+ & 20 & 19 & 18 & 17 & 16 & 15 & & 2 & 1 \\
\hline
 & 21 & 21 & 21 & 21 & 21 & 21 & & 21 & 21
\end{array}
\qquad \frac{20 \cdot 21}{2}
$$

$$4x^4 + 3x^3 - 2x^2 + 7x - 15 = 0$$