

TRASFORMAZIONI GRAFICHE CON LA FUNZIONE LOGARITMO

NB
Applicare la trasformazione grafica anche all'asintoto

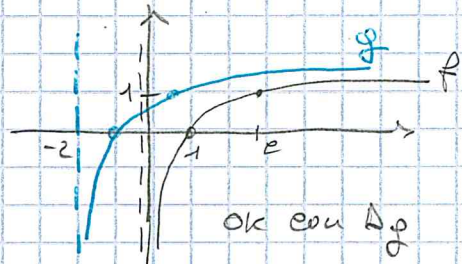
$$f(x) = \ln(x+2)$$

NB $x+2$ è argomento del logaritmo

Sol: $D_f: x+2 > 0$
 $x > -2$
 $(-2; +\infty)$

$$f(x) = \ln x$$

$$f_1(x) = f(x+2) = \ln(x+2) = f(x)$$



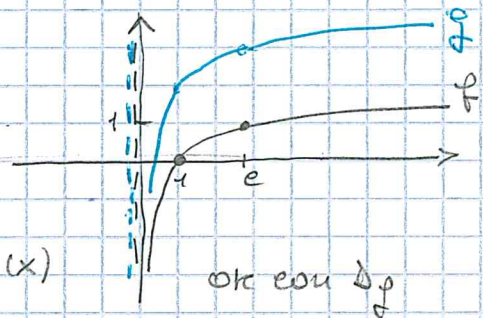
$$f(x) = \ln(x+2)$$

NB solo x è argomento del logaritmo e non $x+2$

Sol: $D_f: x > 0$
 $(0; +\infty)$

$$f(x) = \ln x$$

$$f_1(x) = f(x) + 2 = \ln x + 2 = f(x)$$

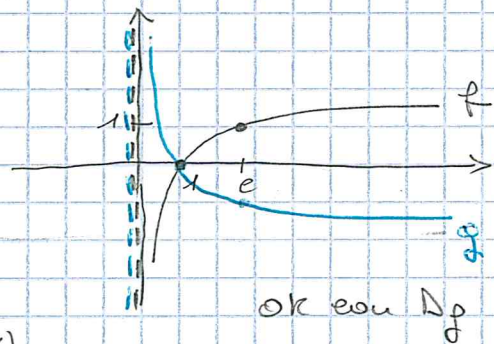


$$f(x) = -\ln x$$

Sol: $D_f: x > 0$
 $(0; +\infty)$

$$f(x) = \ln x$$

$$f_1(x) = -f(x) = -\ln x = f(x)$$

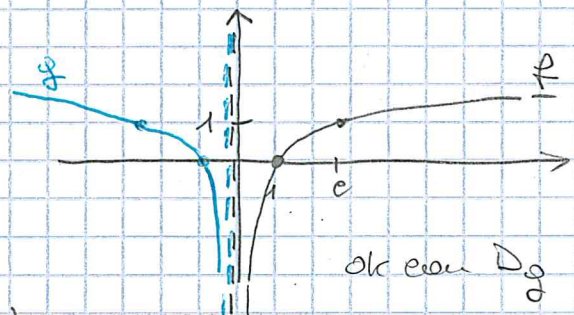


$$f(x) = \ln(-x)$$

Sol: $D_f: -x > 0$
 $x < 0$
 $(-\infty; 0)$

$$f(x) = \ln x$$

$$f_1(x) = f(-x) = \ln(-x) = f(x)$$

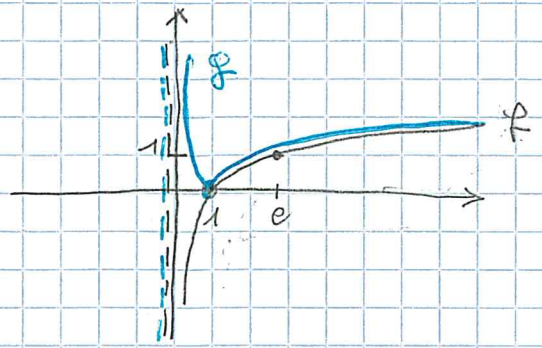


$$f(x) = |\ln x|$$

Sol: $D_f: x > 0$
 $(0, +\infty)$

$$f(x) = \ln x$$

$$f_1(x) = |f(x)| = |\ln x| = f(x)$$

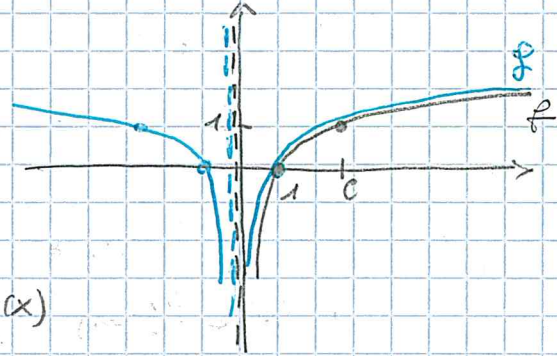


$$f(x) = \ln |x|$$

Sol: $D: |x| > 0$
 $x \neq 0$

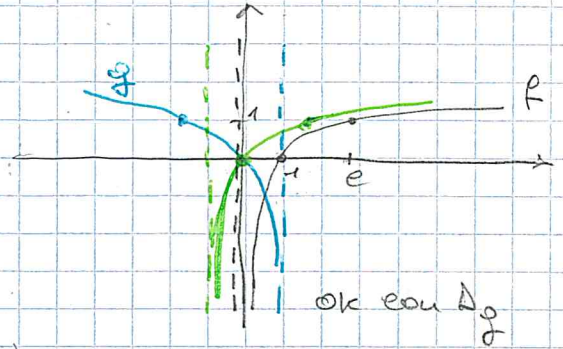
$$f(x) = \ln x$$

$$f_1(x) = f(|x|) = \ln |x| = f(x)$$



$$f(x) = \ln(1-x) \Rightarrow g(x) = \ln(-x+1)$$

Sol: $D_f: -x+1 \geq 0$
 $-x \geq -1$
 $x \leq 1$
 $(-\infty; 1]$



regulière
correcte

$$f(x) = \ln(x)$$

$$f_1(x) = f(x+1) = \ln(x+1)$$

$$f_2(x) = f(-x) = \ln(-x+1) = g(x)$$

OK

regulière
NON
correcte

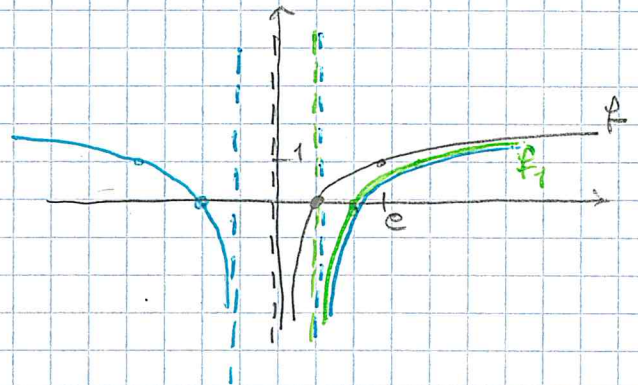
$$f(x) = \ln(x)$$

$$f_1(x) = f(-x) = \ln(-x)$$

$$f_2(x) = f_1(x+1) = \ln(-(x+1)) = \ln(-x-1) \neq g(x)$$

$$f(x) = \ln(|x|-1)$$

Sol: $D_f: |x|-1 \geq 0$
 $|x| \geq 1$ STOP QUI



regulière
correcte

$$f(x) = \ln(x)$$

$$f_1(x) = f(x-1) = \ln(x-1)$$

$$f_2(x) = f_1(|x|) = \ln(|x|-1) = f(x)$$

OK

regulière
NON
correcte

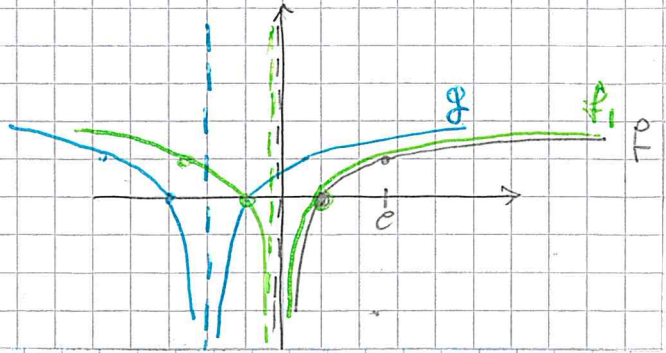
$$f(x) = \ln(x)$$

$$f_1(x) = f(|x|) = \ln|x|$$

$$f_2(x) = f_1(x-1) = \ln|x-1| \neq f(x)$$

$$f(x) = \ln|x - g|$$

Sol: $D_f: |x - g| > 0$
 $x - g \neq 0$
 $x \neq g$



dequante
esatta

$$f(x) = \ln x$$

$$F_1(x) = f(|x|) = \ln|x|$$

$$F_2(x) = f(x - g) = \ln|x - g| = \frac{f(x)}{orc}$$

dequante
non
esatta

$$f(x) = \ln x$$

$$F_1(x) = f(x - g) = \ln(x - g)$$

$$F_2(x) = F_1(|x|) = \ln(|x| - g) \neq f(x)$$