TRASFORMAZIONI GRAFICHE CON LA FUNZIONE ESPONENZIALE

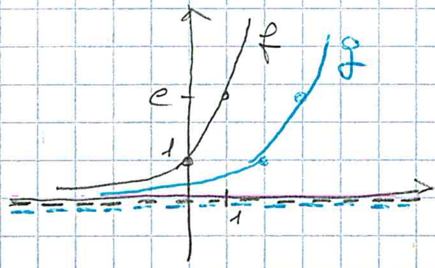
NB
Applicare le trasformazioni grafiche anche agli asintoti

$g(x) = e^{x-2}$

Sol: $D_g = \mathbb{R}$

$f(x) = e^x$

$f_1(x) = f(x-2) = e^{x-2} = g(x)$

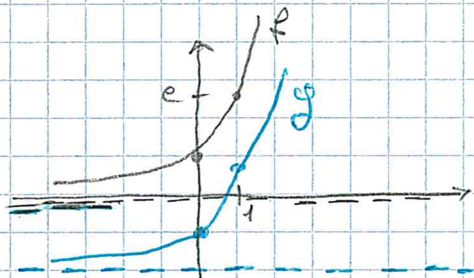


$g(x) = e^x - 2$

Sol: $D_g = \mathbb{R}$

$f(x) = e^x$

$f_1(x) = f(x) - 2 = e^x - 2 = g(x)$

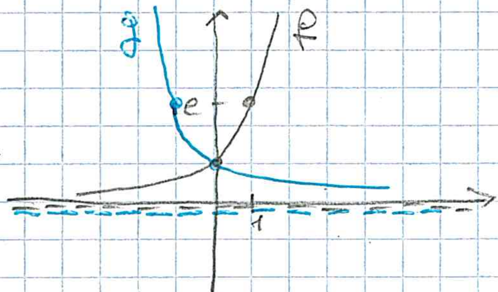


$g(x) = e^{-x}$

Sol: $D_g = \mathbb{R}$

$f(x) = e^x$

$f_1(x) = f(-x) = e^{-x} = g(x)$



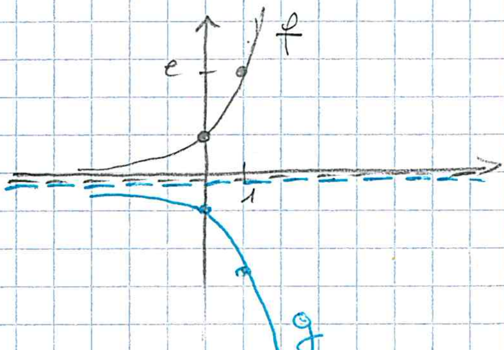
NB: $g(x) = \left(\frac{1}{e}\right)^x \Rightarrow g(x) = (e^{-1})^x = e^{-x}$ come sopra

$g(x) = -e^x$

Sol: $D_g = \mathbb{R}$

$f(x) = e^x$

$f_1(x) = -f(x) = -e^x$

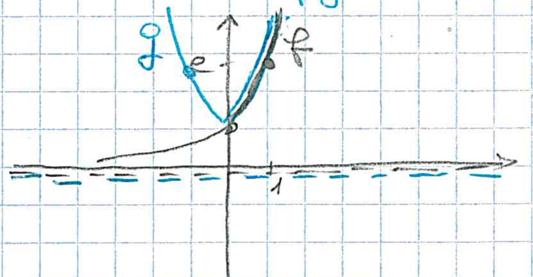


$g(x) = e^{|x|}$

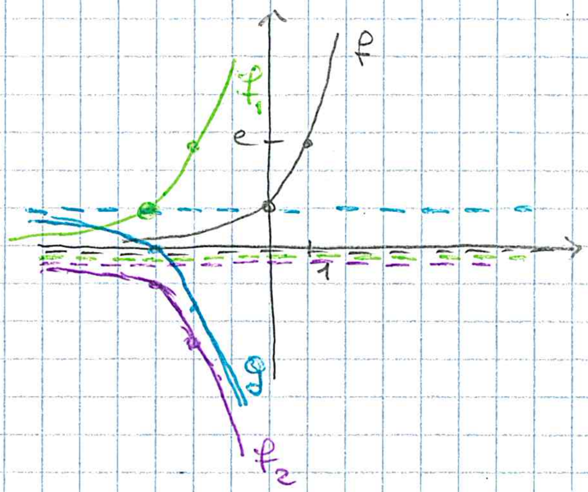
Sol: $D_g = \mathbb{R}$

$f(x) = e^x$

$f_1(x) = f(|x|) = e^{|x|} = g(x)$



$g(x) = -e^{x+3} + 1$



Sol:

$D_g = \mathbb{R}$

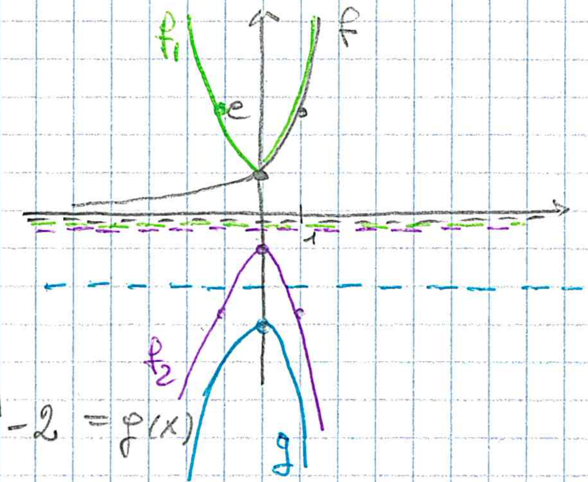
$f(x) = e^x$

$f_1(x) = f(x+3) = e^{x+3}$

$f_2(x) = -f_1(x) = -e^{x+3}$

$f_3(x) = f_2(x) + 1$

$g(x) = -e^{|x|} - 2$



Sol

$D_g = \mathbb{R}$

$f(x) = e^x$

$f_1(x) = f(|x|) = e^{|x|}$

$f_2(x) = -f_1(x) = -e^{|x|}$

$f_3(x) = f_2(x) - 2 = -e^{|x|} - 2 = g(x)$

$g(x) = e^{-x+2}$

Sol : $D_g = \mathbb{R}$

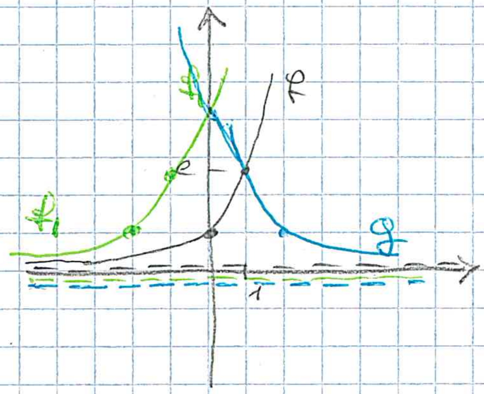
$f(x) = e^x$

sequenze corrette

$f_1(x) = f(x+2) = e^{x+2}$

$f_2(x) = f_1(-x) = e^{-x+2} = g(x)$

OK



sequenze NON corrette

$f(x) = e^x$

$f_1(x) = f(-x) = e^{-x}$

$f_2(x) = f_1(x+2) = e^{-(x+2)} = e^{-x-2} \neq g(x)$

$g(x) = e^{|x+2|}$

Sol $D_g = \mathbb{R}$

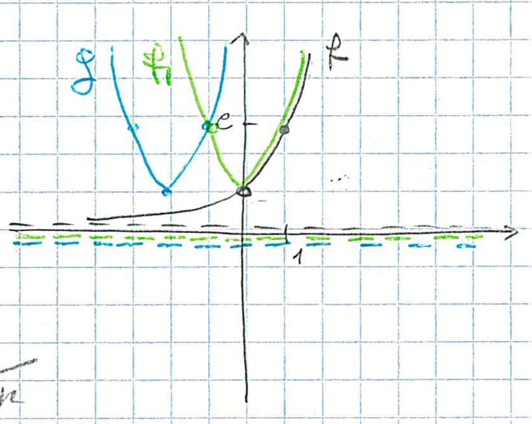
corretto

$f(x) = e^x$

$f_1(x) = f(|x|) = e^{|x|}$

$f_2(x) = f_1(x+2) = e^{|x+2|} = g(x)$

OK



NON corretto

$f(x) = e^x$

$f_1(x) = f(x+2) = e^{x+2}$

$f_2(x) = f(|x|) = e^{|x|+2} \neq g(x)$

$g(x) = e^{|x|+2}$

Sol $D_g = \mathbb{R}$

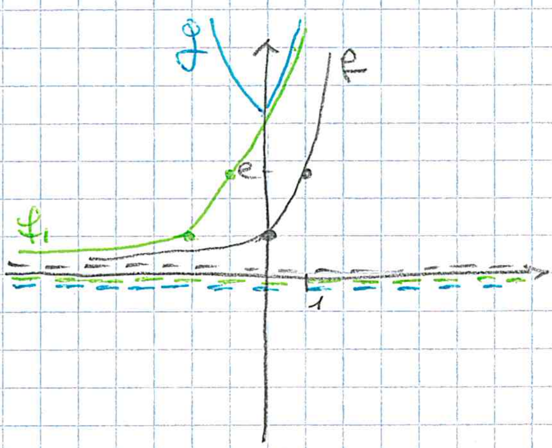
corretto

$f(x) = e^x$

$f_1(x) = f(x+2) = e^{x+2}$

$f_2(x) = f(|x|) = e^{|x|+2} = g(x)$

OK



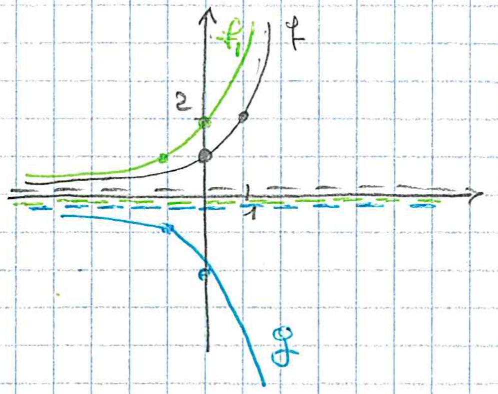
NON corretto

$f(x) = e^x$

$f_1(x) = f(|x|) = e^{|x|}$

$f_2(x) = f_1(x+2) = e^{|x+2|} \neq g(x)$

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



Sol: $D_g = \mathbb{R}$

$f(x) = 2^x$

correcte

$f_1(x) = f(x+1) = 2^{x+1}$

$f_2(x) = f_1(-x) = 2^{-x+1}$

$f_3(x) = -f_2(x) = -2^{-x+1} = g(x)$

ok