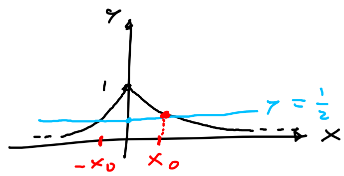
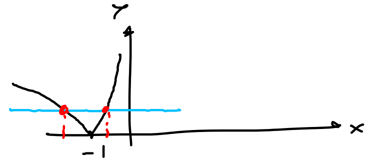
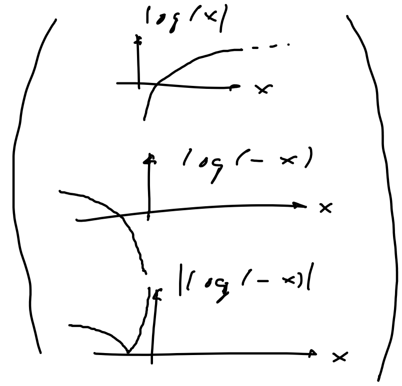
$\boxed{93}$ $\quad f(x) = e^{-2|x|} \; ; \; g(x) = |\log(-x)|$

(i)







(ii) $\quad f(x) + 2 > \frac{5}{2}$

$$f(x) > \frac{1}{2}$$

$$e^{-2|x_0|} = \frac{1}{2}$$

i.e. $\quad e^{-2x_0} = \frac{1}{2} \quad / \log(\ldots)$

$$-2x_0 = \log\left(\tfrac{1}{2}\right)$$

$$\longrightarrow \underline{x_0} = -\frac{\log\left(\frac{1}{2}\right)}{2} = -\frac{\log(2^{-1})}{2} = \underline{\frac{\log(2)}{2}}$$

$$\longrightarrow \underline{\mathbb{L} = \left(-\frac{\log(2)}{2}, \frac{\log(2)}{2}\right)}$$

$\boxed{81}$

$$\frac{n}{k} \cdot \frac{(n-1)!}{(n-1-(k-1))!\,(k-1)!} = \frac{n!}{k\,(n-k)!\,(k-1)!} = \frac{n!}{(n-k)!\,k!} = \binom{n}{k}.$$

$$\binom{n}{k} = \frac{n!}{(n-k)!\,k!}$$

$$\left(n(n-1)! = n \cdot \underbrace{1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot \ldots \cdot (n-2)(n-1)}_{(n-1)!} = n! \right)$$

$\boxed{103}$ (iv) $\quad \lim\limits_{x \to 0} \frac{\sqrt{1+x} - 1}{x} = \lim\limits_{x \to 0} \frac{(\sqrt{1+x} - 1)}{x} \quad$ [sieh VL 9.11.20]

$\boxed{105}$ (iv) $\quad \underline{\lim\limits_{t \to -1} \frac{t^2 + 3t + 2}{t^2 - t - 2}} = \lim\limits_{t \to -1} \frac{(t+2)\cancel{(t+1)}}{\cancel{(t+1)}(t-2)} = \lim\limits_{t \to -1} \frac{t+2}{t-2} = \underline{-\frac{1}{3}}$