

oh.

d. $y = \frac{\ln x}{x+1}$

y-intercept: $y|_{x=0} = -\infty$

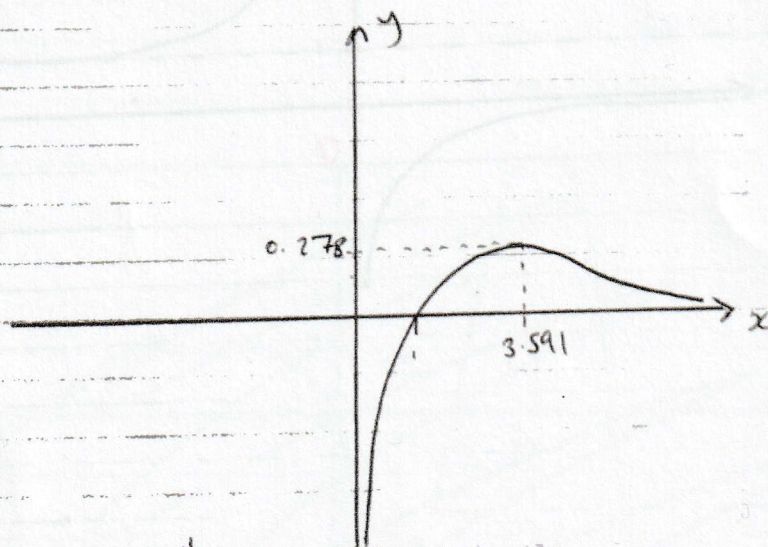
$\lim_{x \rightarrow 0} y = -\infty$

CHECK NOTATIONS!!

x-intercept: $y=0 \Rightarrow \ln x = 0$
 $\Rightarrow x=1$

asymptote at $x=-1$ but that doesn't matter because $\ln x$ is undefined for $x \leq 0$ anyway

$\lim_{x \rightarrow \infty} \frac{\ln x}{x+1} = \lim_{x \rightarrow \infty} \frac{(\frac{1}{x})}{1} = 0^+$



$$\frac{dy}{dx} = \frac{(x+1) \cdot \frac{1}{x} - \ln x}{(x+1)^2} = \frac{x+1-x \ln x}{x(x+1)^2}$$

Setting $\frac{dy}{dx} = 0$, we get $x+1-x \ln x = 0 \dots x \approx 3.591$
 $y \approx 0.278$