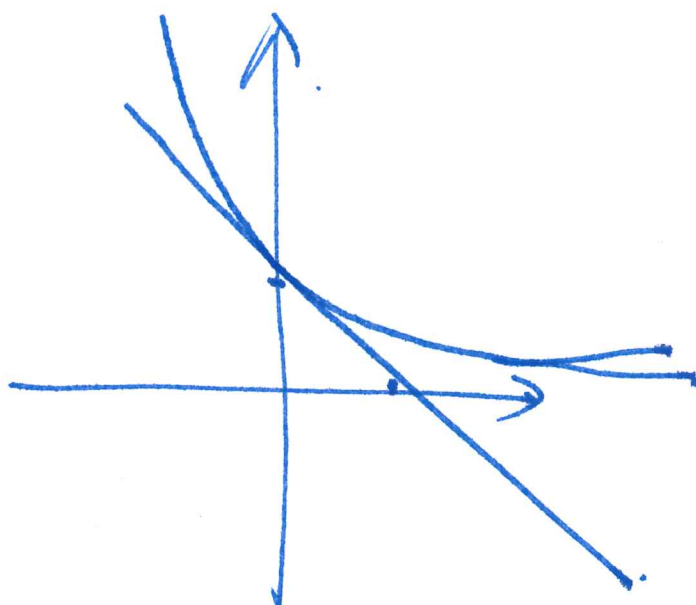


$$\forall x \in \mathbb{R}.$$

$$1 - x \leq \exp(-x).$$



$$\Pr(\exists f \in \mathcal{F}, E(f) = \text{True}) = \Pr(E(f_1) \cup E(f_2) \cup \dots \cup E(f_{|\mathcal{F}|}))$$

$$\leq \sum_{i=1}^{|\mathcal{F}|} \Pr(E(f_i) = \text{True}) \leq |\mathcal{F}| \cdot \exp(-n\varepsilon)$$

$$\leq \delta$$

$$\Rightarrow n \geq \frac{1}{\varepsilon} (\log |\mathcal{F}| + \log \frac{1}{\delta}).$$