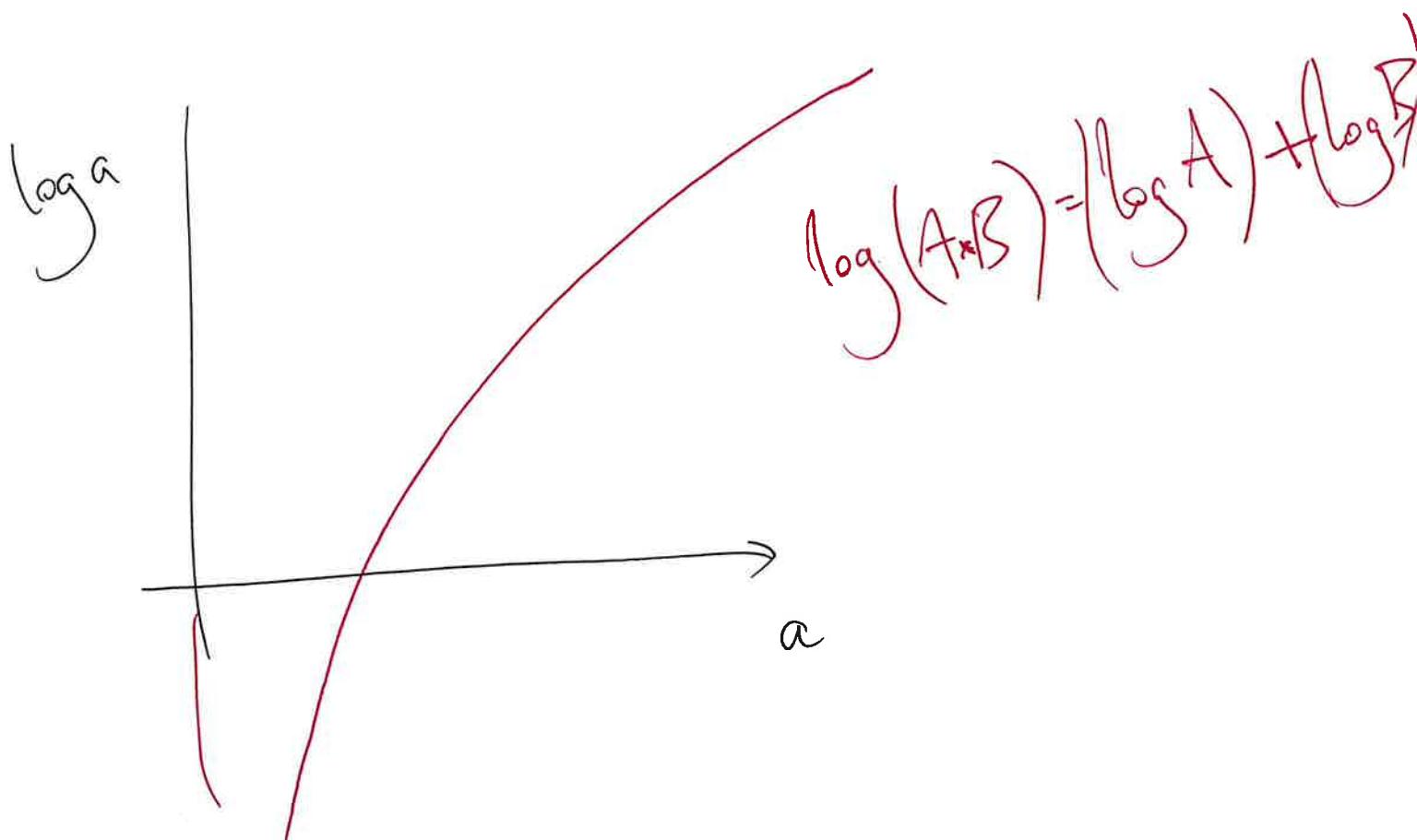
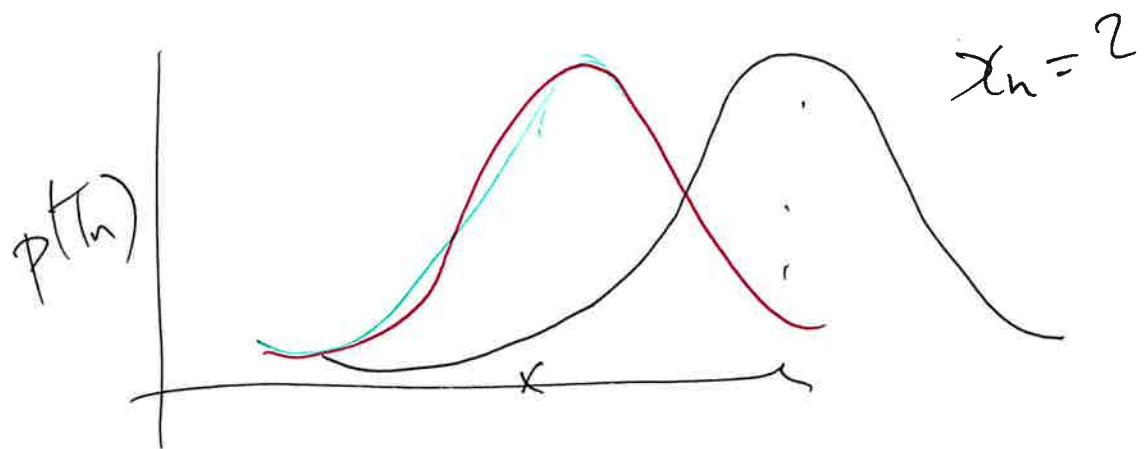
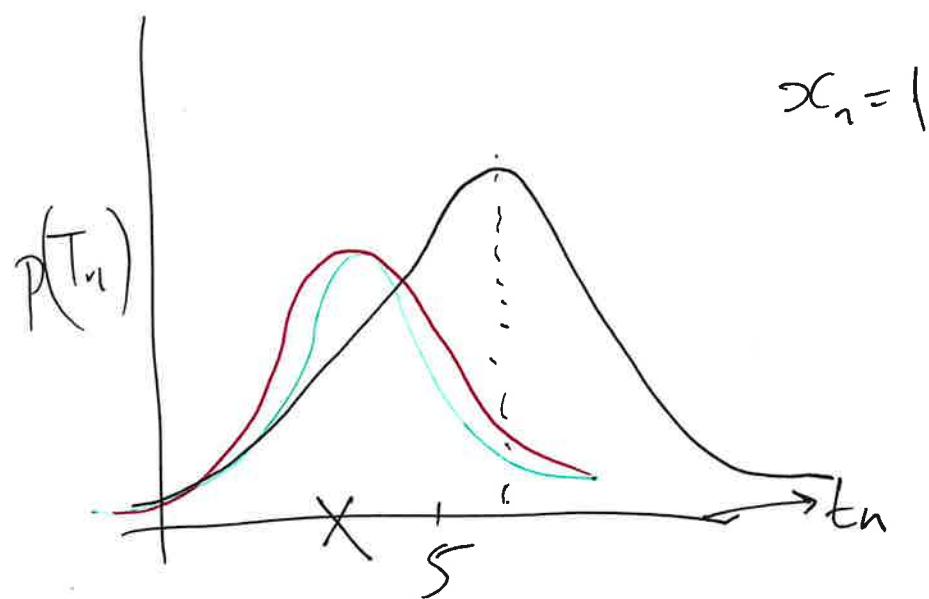


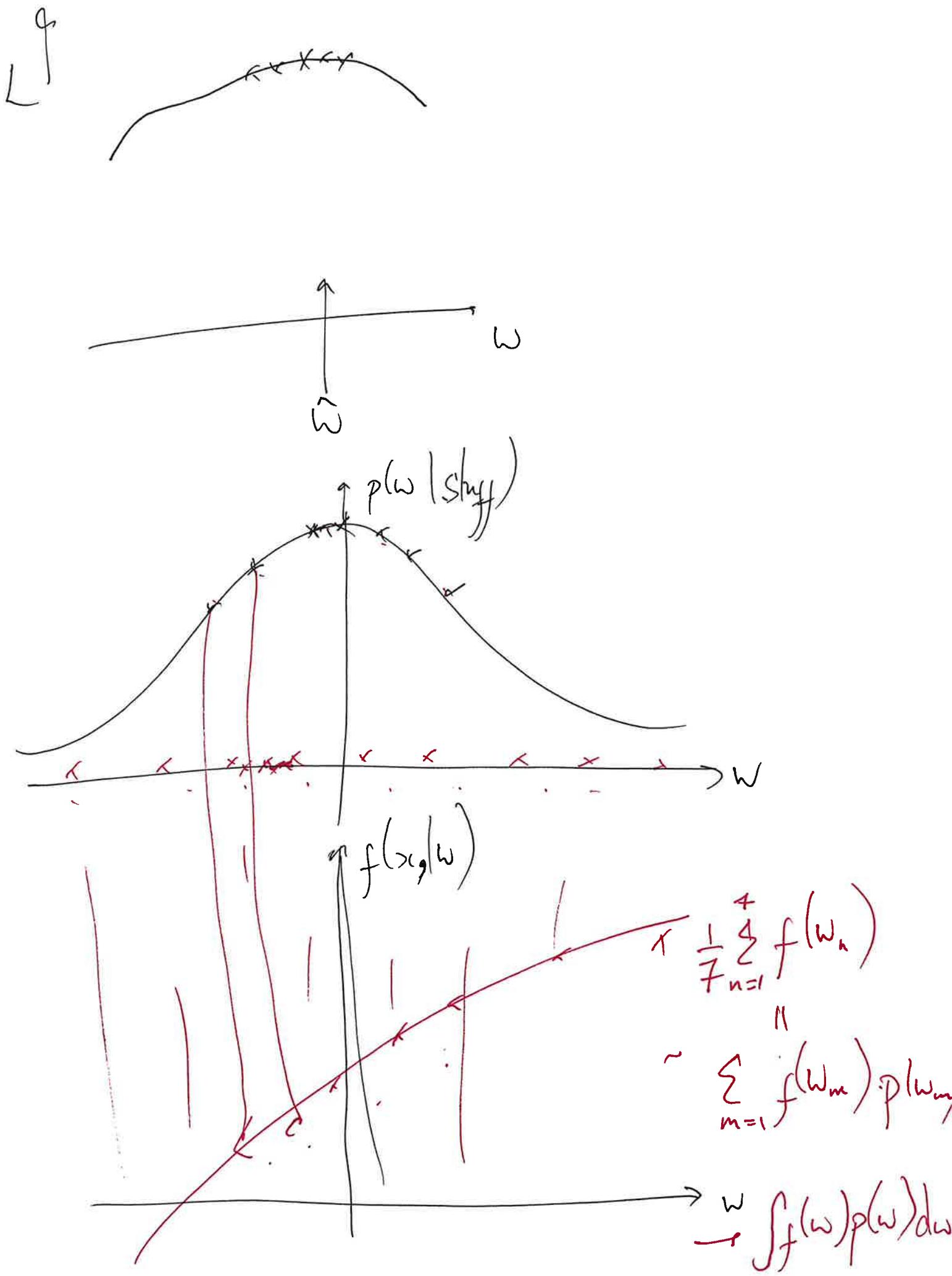
①



$$\begin{aligned}
 \log L &= \log \pi \dots \\
 &= \sum_n \left\{ \log \frac{1}{\sigma \sqrt{2\pi}} \exp \left[-\frac{1}{2\sigma^2} (t_n - w^\top x_n)^2 \right] \right\} \\
 &= \sum_n \left[\log \frac{1}{\sigma \sqrt{2\pi}} + \log \exp \frac{-1}{2\sigma^2} (\dots)^2 \right] \\
 &\approx \sum_n \left\{ \log \frac{1}{\sigma \sqrt{2\pi}} + -\frac{1}{2\sigma^2} (\dots)^2 \right\}
 \end{aligned}$$

$$\begin{aligned}
 -\log L &= +N \times \log \sigma \sqrt{2\pi} + \underbrace{\frac{1}{2\sigma^2} \sum_n (t_n - w^\top x_n)^2}_{\text{argmin}_w (\dots)}
 \end{aligned}$$

3



(4)

$$p(\omega, t) = p(\omega)p(t|\omega)$$

$$p(\omega, t) = p(t)p(\omega|t)$$

$$\Rightarrow \frac{p(\omega)p(t|\omega)}{p(t)} = p(\omega|t)$$