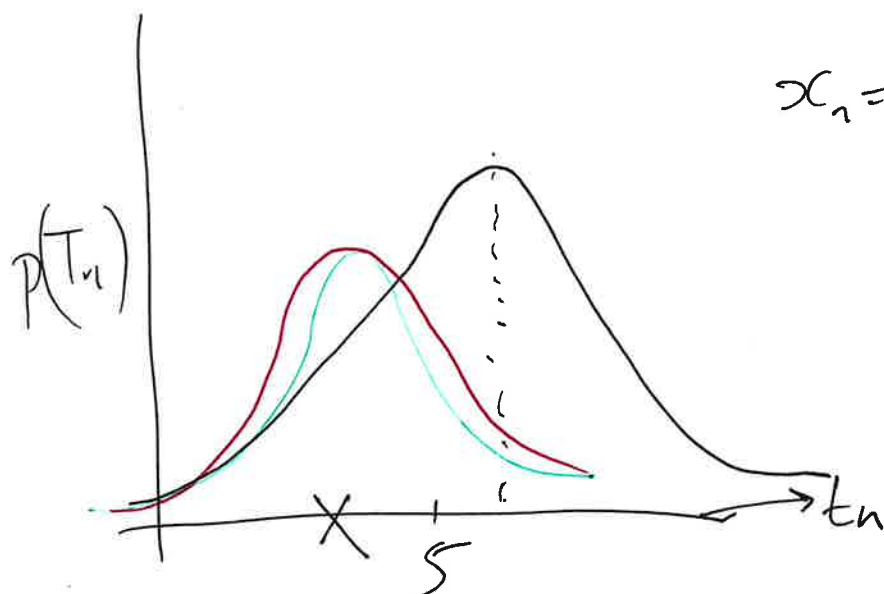
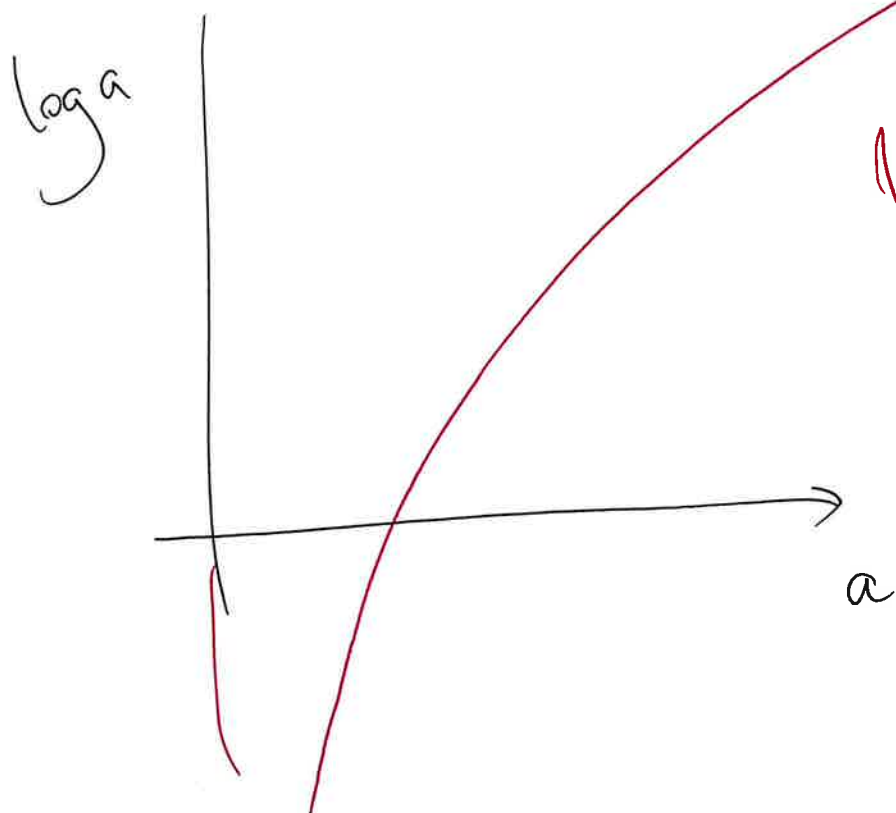
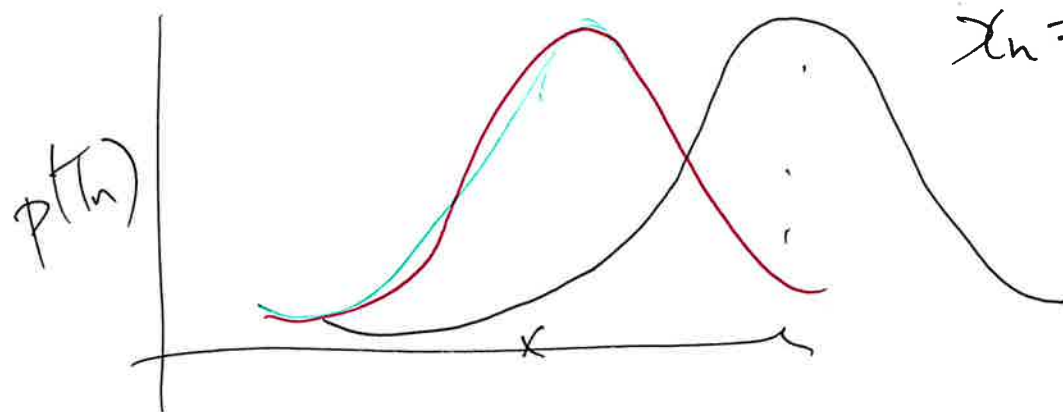


①

$$x_n = 1$$



$$x_n = 2$$



$$\log(A \times B) = (\log A) + (\log B)$$

$$\log L = \log \pi \dots$$

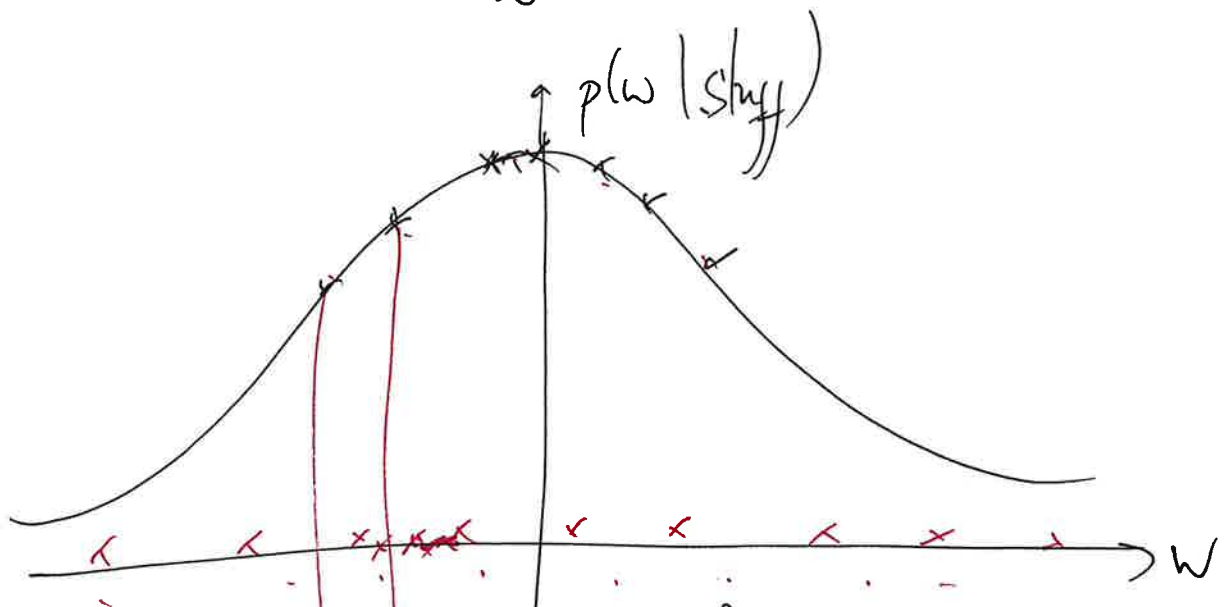
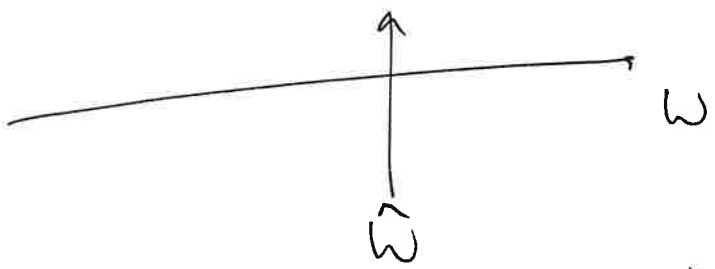
$$= \sum_n \left\{ \log \frac{1}{\sigma \sqrt{2\pi}} \exp \left[-\frac{1}{2\sigma^2} (t_n - w^T x_n)^2 \right] \right\} \quad (2)$$

$$= \sum_n \left[\log \frac{1}{\sigma \sqrt{2\pi}} + \log \exp \frac{-1}{2\sigma^2} (\dots)^2 \right]$$

$$= \sum_n \left\{ \log \sigma \sqrt{2\pi} + -\frac{1}{2\sigma^2} (\dots)^2 \right\}$$

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

q



$f(x, w)$

$$\frac{1}{7} \sum_{n=1}^7 f(w_n)$$

$$\sim \sum_{m=1}^M f(w_m) p(w_m)$$

$$\rightarrow \int f(w) p(w) dw$$

(4)

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

$$p(\omega, t) = p(t) \overset{''}{p(\omega|t)}$$

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