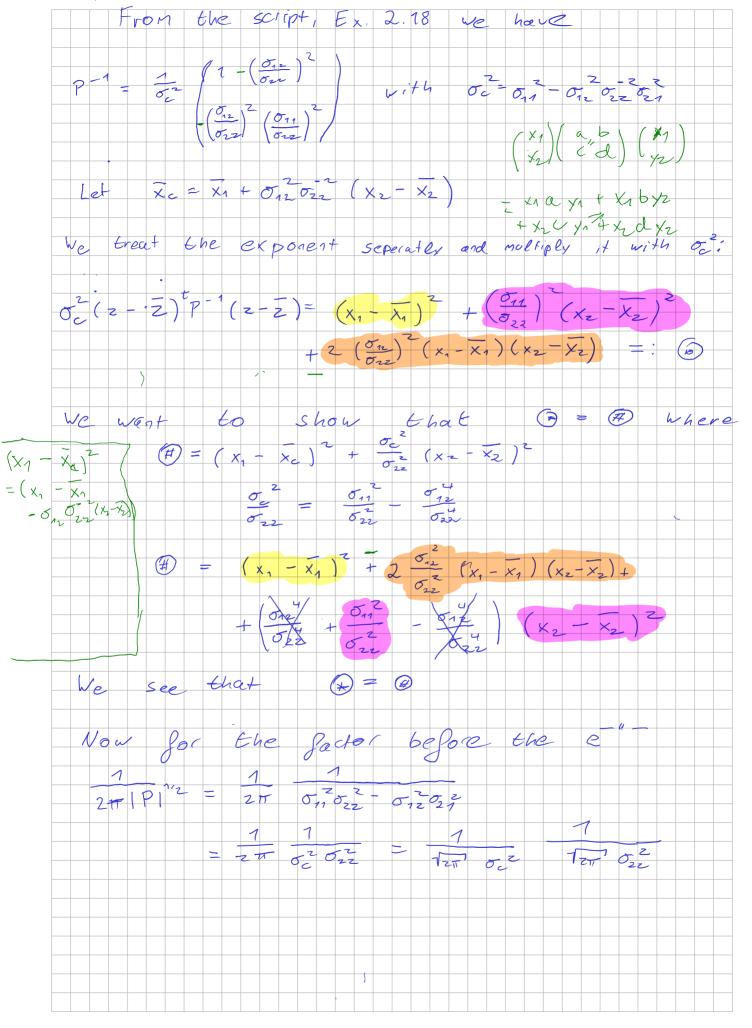


E3



Density of $\pi(x_1) = S\pi(x_1, x_2) dx_2$ $\frac{1}{12\pi\sigma_c^2} e \times p \left(-\frac{1}{2\sigma_c^2}(x_1 - x_1)^2\right) \text{ Since the density}$ $\frac{1}{1_{2\pi}\sigma_{22}^{2}}\left(\rho\left(-\frac{1}{2\sigma_{22}^{2}}\left(x_{2}-x_{2}\right)^{2}\right)=N\left(x_{2},\sigma_{22}^{2}\right)$ integrates to 1 $T(x_1,x_2) = T(x_1,x_2) = \sqrt{2\pi} 5\frac{2}{2}$ We now factored TT (x1 x2) = TT (x1 x2) TT (x2)

For the formulas for TT (x1), TT (x2 1x1) we would have to switch things around: $\pi(x_1) = \frac{1}{\sqrt{z_1 z_1^2}} e \times \rho(-\frac{1}{z_0 z_1}(x_1 - x_1)^{\frac{1}{z}})$ $\pi(x_2|x_1) = \pi(x_2|x_1) = \pi(x_2|x_2) = \pi(x_2|x_2)$ With od 522 - 012 011 $\times d = \times_2 + O_{12} (x_1 - \overline{x_1}).$

dreep (Pig) = 1 - STPg dx

= SPdx - STPp Pdx

density region es to 1 $= Sp(1-\sqrt{\frac{q}{2}}) dx$ $\leq -S P \log \left(\sqrt{\frac{q}{p}} \right) dx$ $= -\frac{1}{2} S P \log \left(\frac{q}{p} \right) dx$ · = K L (p 19) Colors 1- \times = -log \times = \times - 1-log \times = 0 Pl \times - 1 convex - log \times structly convex $\Rightarrow \times$ - 1 + (-log \times) strictly convex $\Rightarrow \times$ - 1 - log \times has angle minimum Take derivative w.r.t. x

\[\frac{1}{x} \times 1 - \frac{7}{x} \frac{1}{2} = 0 \] $x - 1 - \log x \ge x - 1 - \log x^* = 1 - 1 - 0 = 0$ D