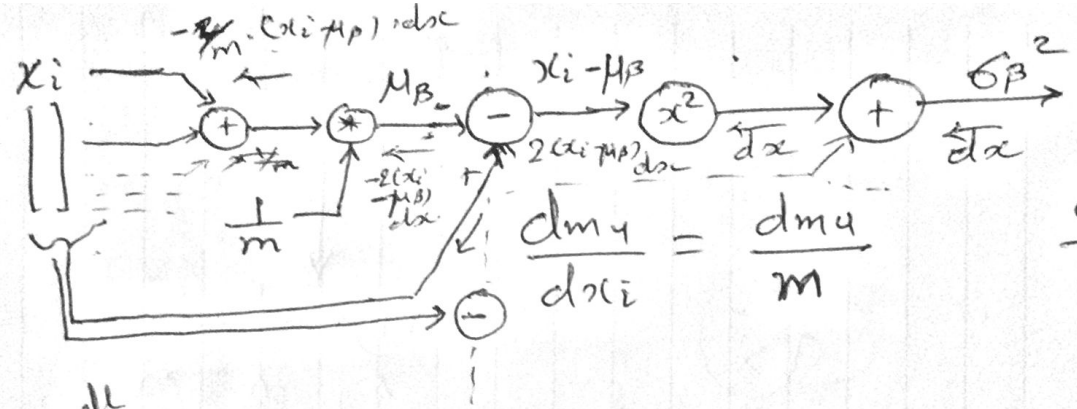
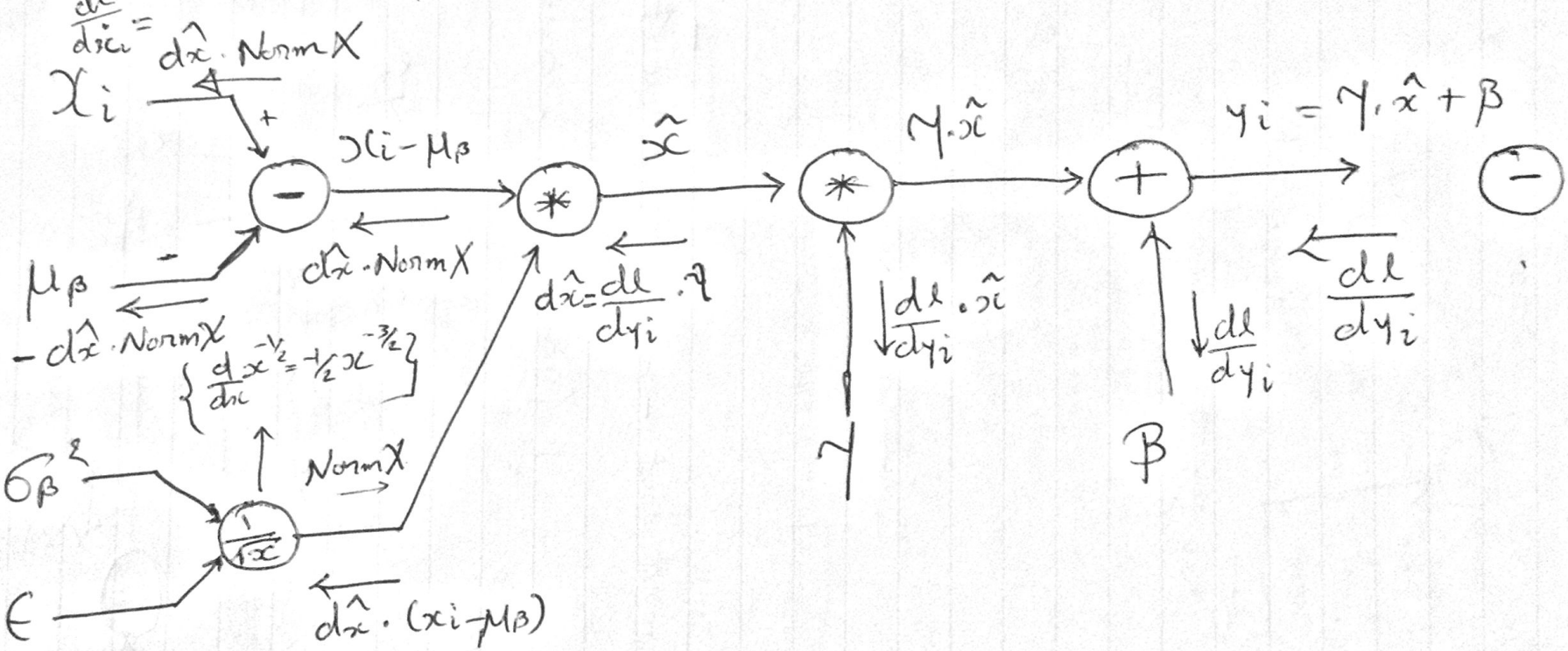
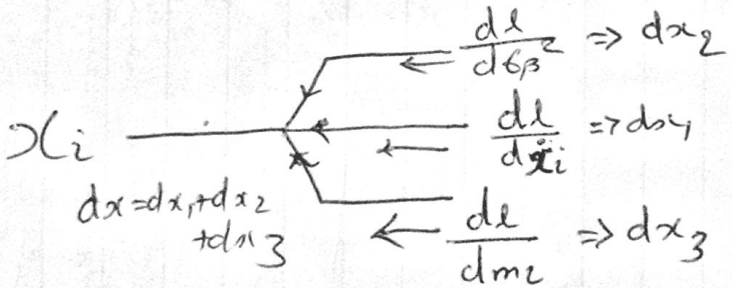


$$\frac{d\mu_\beta}{dx_i} = \frac{dm_4}{m}$$

$$\frac{d\sigma_\beta^2}{\partial x_i} = \frac{-2\cdot(x_i-\mu_\beta)}{m}$$





$$\frac{dl}{dx_i} = \frac{dl}{dx_i} + \frac{dl}{d\sigma_\beta^2}\cdot\frac{d\sigma_\beta^2}{dx_i} + \frac{dl}{d\mu_\beta}\cdot\frac{dm_4}{dx_i}$$