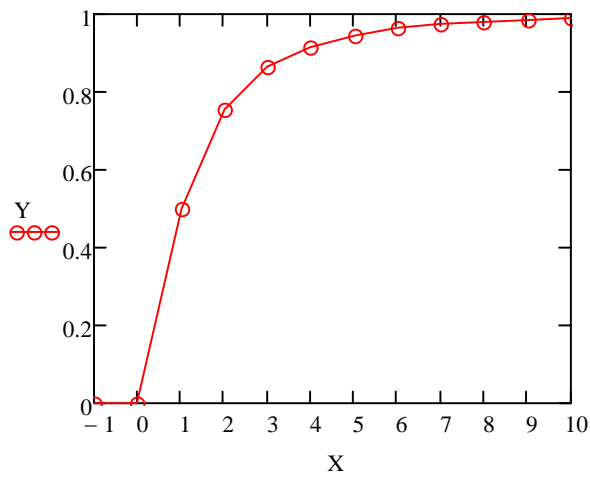
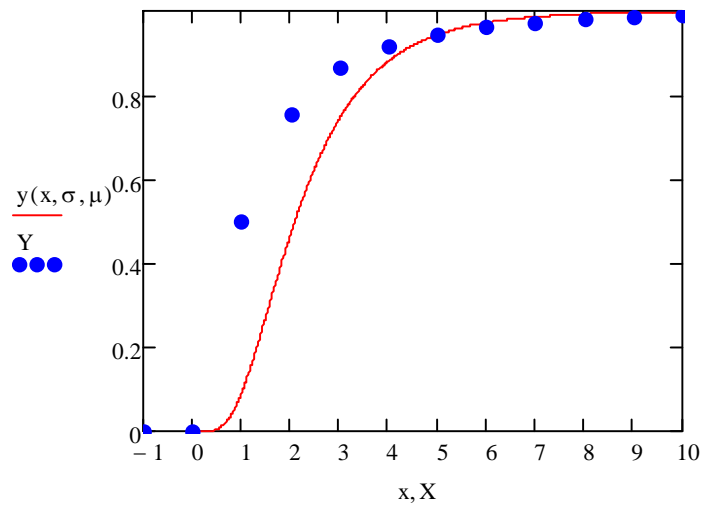


$$X := \begin{pmatrix} -1 \\ 0 \\ 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \end{pmatrix} \quad Y := \begin{pmatrix} 0 \\ 0 \\ 0.500000000000000 \\ 0.755891404214417 \\ 0.864031392358576 \\ 0.917171480998302 \\ 0.946239689548337 \\ 0.963414248082957 \\ 0.974167233195408 \\ 0.981211607185945 \\ 0.985997794426055 \\ 0.989348900658300 \end{pmatrix}$$



$$y(x, \sigma, \mu) := \frac{1}{\sigma \cdot \sqrt{2\pi}} \cdot \int_0^x \frac{1}{t} \cdot e^{-\frac{(\ln(t) - \mu)^2}{2 \cdot \sigma^2}} dt$$

Guess $\sigma := 0.55$ $\mu := \text{mean}(Y)$



$$\text{Residual}(\sigma, \mu) := \begin{cases} \text{for } i \in 0.. \text{last}(X) \\ R_i \leftarrow y(X_i, \sigma, \mu) - Y_i \\ R \end{cases}$$

Given

$$\text{Residual}(\sigma, \mu) = 0$$

$$\text{EST} := \text{Minerr}(\sigma, \mu)$$

$$\text{EST} = \begin{pmatrix} 0.64 - 0.551i \\ 0.223 + 0.374i \end{pmatrix}$$

$$\underline{\underline{\sigma}} := \text{EST}_0 \quad \underline{\underline{\mu}} := \text{EST}_1$$