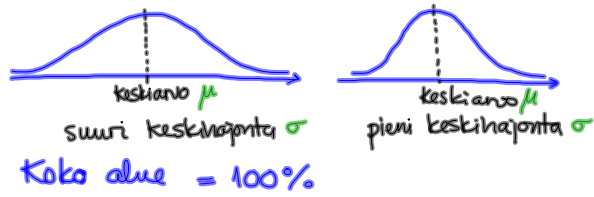


NORMAALI JAKAUMA



$$P(X < a) = P\left(Z < \frac{a - \mu}{\sigma}\right)$$

↑ raja ↑ taulukko-arvo ↑ normitettu arvo

↑ asia ↑

Ihetyy MAOLista

ESIM: 7-vuotiaat pojat $\left\{ \begin{array}{l} \mu = 122,7 \text{ cm (ka)} \\ \sigma = 5,0 \text{ cm (hajonta)} \end{array} \right.$
 Vii merkkiä $N(122,7 \text{ cm}, 5,0 \text{ cm})$

$$P(X < 130 \text{ cm})$$

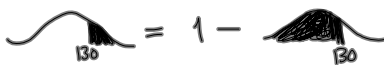
$$= P\left(Z < \frac{130 - 122,7}{5,0}\right)$$

$$= P(Z < 1,46)$$

$$= \Phi(1,46) = 0,9279 \approx 93\%$$

luetaan MAOL taulukosta

* $P(X > 130 \text{ cm})$



* $P(X < 120 \text{ cm})$

$$\frac{120 - 122,7}{5} = -0,54$$

$$= 1 - \text{Area to the right of } 0,54$$

$$= 1 - \Phi(0,54)$$

$$= 1 - 0,7054$$

$$= 0,2946$$

$$\approx \underline{\underline{29\%}}$$

$P(120 \text{ cm} < X < 130 \text{ cm})$

$$= 92,79\% - 29,46\%$$

$$= \underline{\underline{63,33\% \approx 63\%}}$$

Tehtäviä s. 220,
221 →