

Eindexamen wiskunde B1 vwo 2003-I

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Lengte

$$1. \quad P(x \leq 200 \mid \mu = 180,0; \sigma = 12,8) = \Phi\left(\frac{200 - 180,0}{12,8}\right) = 0,94091$$

$$\text{Of met de GR:} \quad \text{normalcdf}(-10^{99}, 200, 180, 12,8) = 0,94091$$

$$\text{De gevraagde kans is dan } (0,94091)^4 = 0,7838$$

$$2. \quad P(x > 177) = 1 - P(x \leq 177 \mid \mu = 167,0; \sigma = p) = 0,278$$

$$\rightarrow \quad \Phi\left(\frac{177 - 167,0}{p}\right) = 1 - 0,278 = 0,722$$

$$\rightarrow \quad \frac{177 - 167,0}{p} = 0,588 \quad \rightarrow \quad p = 17,0 \quad \rightarrow \quad \sigma = 17,0$$

$$\text{Of met de GR:} \quad y_1 = \text{normalcdf}(-10^{99}, 177, 167, x)$$

$$y_2 = 0,722$$

$$\text{Intersect} \quad x = 17,0 \quad \rightarrow \quad \sigma = 17,0$$