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$$\Omega = \{\underbrace{(K,K,K)}_{3 \times K},\ \underbrace{(K,K,Z),\ (K,Z,K),\ (Z,K,K)}_{2 \times K},\ \underbrace{(Z,Z,K),\ (Z,K,Z),\ (K,Z,Z)}_{1 \times K},\ \underbrace{(Z,Z,Z)}_{0 \times K}\}$$

ELEMENTAR-
EREIGNISSE

$$P(A) = \frac{\# A}{\# \Omega}$$

X	P
0	$1/8 \geq 0$
1	$3/8 \geq 0$
2	$3/8 \geq 0$
3	$1/8 \geq 0$
	$\Sigma = 1$

X ... # GEWORFENE KÖPFE

b) $P(X=1) = \frac{3}{8}$

a) $P(X=2) = \frac{3}{8}$
$= 0,375$

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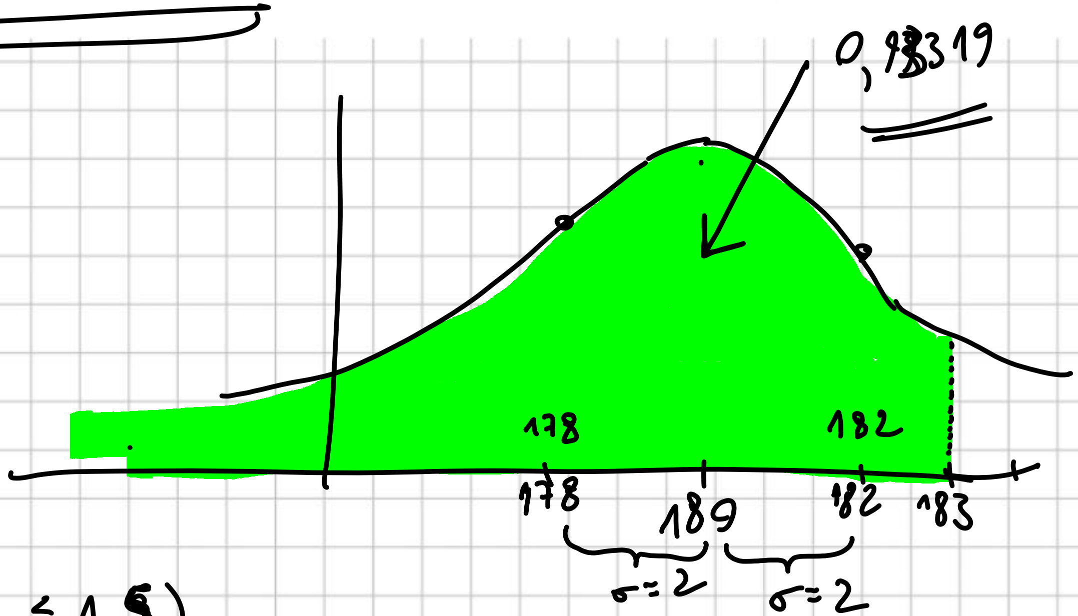
VRKTS FKT.

2 | a) $Y \sim N(\overset{\mu}{180}; \overset{\sigma^2}{2^2})$

$P(X \leq 183) = P\Big(\underbrace{\frac{X-\mu}{\sigma}}_{X_{St}} \leq \frac{183-\mu}{\sigma}\Big)$

$= P\left(X_{St} \leq \frac{183-180}{2}\right) = P(X_{St} \leq 1{,}5)$

$= \Phi(1{,}5) = \underline{\underline{0{,}93319}}$



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2 b)

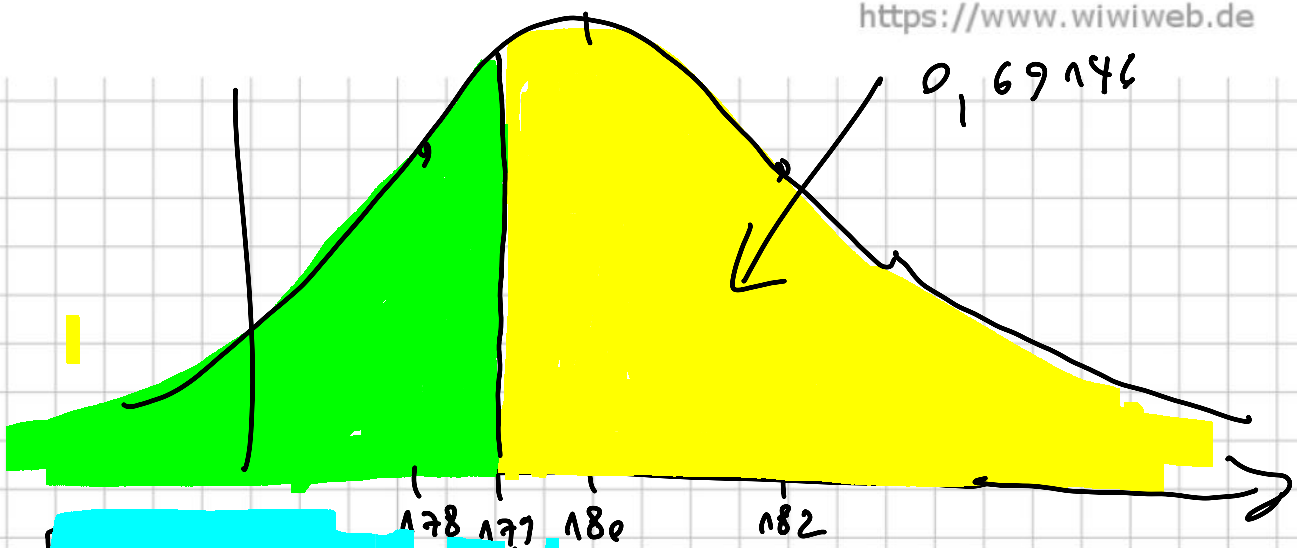
$$P(X \geq 179)$$

$$= 1 - P(X < 179)$$

$$= 1 - P(X \leq 179)$$

$$= 1 - P\left(X_{St} \leq \frac{179-180}{2}\right) = 1 - \Phi(-0{,}5) = 1 - [1 - \Phi(0{,}5)]$$

$$= \Phi(0{,}5) = 0{,}69146$$



$$\boxed{\Phi(-z) = 1 - \Phi(z)}$$

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2| c)

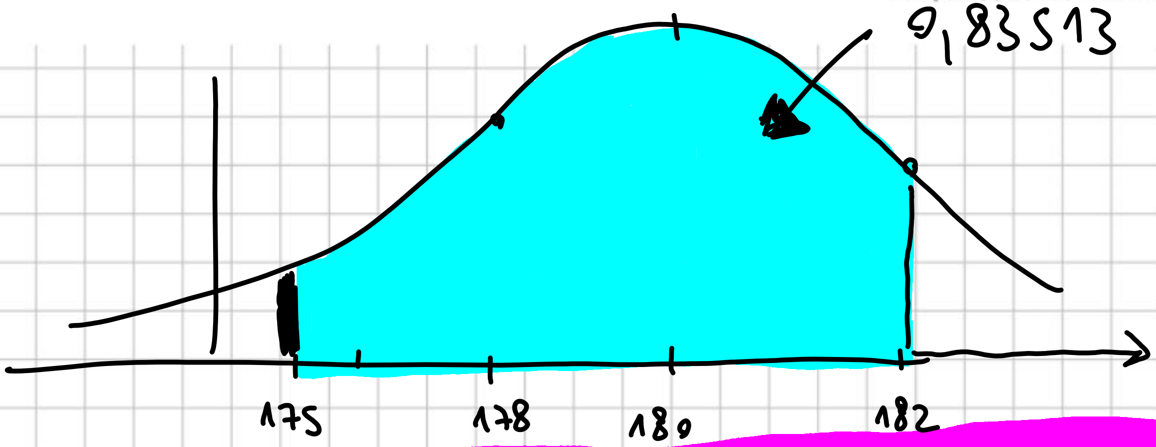
$$P(175 \leq X \leq 182)$$

$$= P(175 < X \leq 182)$$

$$= P\left(\frac{175-180}{2} < X_{St} \leq \frac{182-180}{2}\right)$$

$$= P(-2{,}5 < X_{St} \leq 1)$$

$$= \Phi(1) - \Phi(-2{,}5) = \Phi(1) - [1 - \Phi(2{,}5)] = \Phi(1) - 1 + \Phi(2{,}5)$$



$$\boxed{P(a < X \leq b) = F(b) - F(a)}$$

$$= 0{,}84134 - 1 + 0{,}99379 = \underline{\underline{0{,}83513}}$$