

$$\bar{X} \sim N\left(\mu, \frac{\sigma}{\sqrt{n}}\right)$$

↓
avg

① $\bar{X} \sim N\left(30, \frac{3}{\sqrt{100}}\right)$

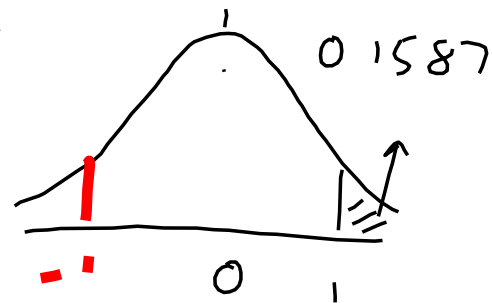
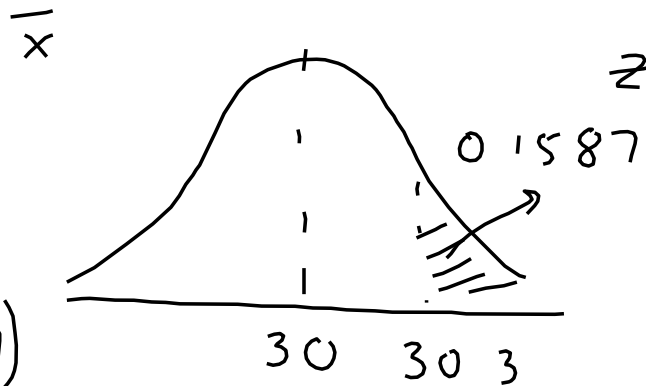
↘
std dev

$$\mu = 30$$

$$\sigma = 3$$

$$\begin{aligned} P(\bar{X} > 30.3) \\ &= P\left(Z > \frac{30.3 - 30}{0.3}\right) = P(Z > 1) \\ &= 0.1587 \end{aligned}$$

$$\bar{X} \sim N(30, 0.3)$$



1.6)

$$\bar{X} \sim N\left(\mu, \frac{\sigma}{\sqrt{n}}\right)$$

\downarrow avg \searrow std dev

$$\bar{X} \sim N\left(30, \frac{3}{\sqrt{400}}\right)$$

$$\mu = 30$$

$$\sigma = 3$$

$$\bar{X} \sim N(30, 0.15)$$

$$P(\bar{X} > 30.3)$$

$$= P\left(Z > \frac{30.3 - 30}{0.15}\right)$$

$$= P(Z > 2)$$

$$= 0.0228$$

