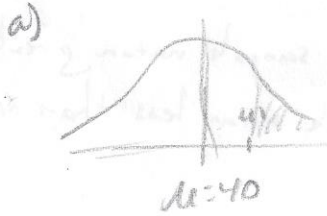


$$\begin{aligned} \bar{x} &= 2.83 \\ s &= 6 \\ n &= 30 \end{aligned}$$

$$\bar{x} = \mu \rightarrow \mu = 2.83$$

$$\begin{aligned} \text{CONFIDENCE INTERVAL: } \mu \pm z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}} &= 2.83 \pm 2.58 \cdot 1.114 = \\ &= 2.83 \pm 2.874 \begin{matrix} 5.704 \\ -0.044 \end{matrix} \\ \sigma_{\bar{x}} &= \frac{s}{\sqrt{n-1}} = \frac{6}{\sqrt{30-1}} = \frac{6}{\sqrt{29}} = 1.114 \end{aligned}$$

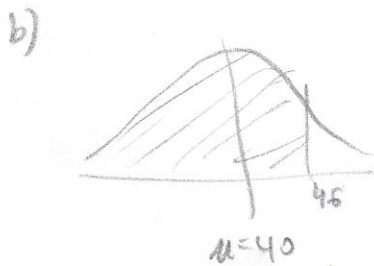
$$\begin{aligned} 2. \quad n &= 9 \\ \mu &= 40 \\ \sigma &= 6 \end{aligned}$$



$$P(\bar{x} > 41) = P(Z > 0.5) = 0.5 - 0.1915 = 0.3085$$

$$z = \frac{\bar{x} - \mu}{\sigma_{\bar{x}}} = \frac{41 - 40}{2} = \frac{1}{2} = 0.5$$

$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}} = \frac{6}{\sqrt{9}} = \frac{6}{3} = 2$$



$$P(\bar{x} < 46) = P(Z < 3) = 0.5 + 0.0044 = 0.9987$$

$$z = \frac{x - \mu}{\sigma_{\bar{x}}} = \frac{46 - 40}{2} = \frac{6}{2} = 3$$

$$3. \quad z = \frac{x - \mu}{\sigma} \rightarrow z_A = \frac{27 - 20}{7} = 1$$

$$z_B = \frac{27 - 23}{2} = 2$$

Solution: distribution B

	A	B
$\mu$	20	23
$\sigma$	7	2

$$4. \quad n = 50$$

$$\text{agreement} = \frac{40}{50} = 0.8$$

$$\text{disagreement} = \frac{10}{50} = 0.2$$

(95%)

$$p \pm z_{\alpha/2} \sqrt{\frac{p(1-p)}{n}} \rightarrow 0.2 \pm 1.96 \sqrt{\frac{0.2(1-0.2)}{50}} \rightarrow$$

$$0.2 \pm 1.96 \sqrt{\frac{0.16}{50}} \rightarrow 0.2 \pm 1.96 \cdot 0.057 \rightarrow$$

$$0.2 \pm 0.112 \begin{matrix} < 0.312 \\ < 0.088 \end{matrix}$$