1 - Intervalo conf 95%

$n=21 \quad \sigma=7 \quad$ Nivel conf = 95%

$a = 1 - 0.95 = \underline{0.05}$

En tabla

Distribución $Z_{a/2} \rightarrow Z\ 0.025 = \underline{1.9599}$

Por lo que

$\mu\ 95\% = m \pm 1.9599 * \frac{7}{\sqrt{21}}$

$= \mu \pm 7.0928 \rightarrow 2.9$

$\rightarrow$ está entre $(-2.98, 29$

4 - θ y $\sigma\theta$ $\rightarrow$ $\underline{\mu = \bar{x} \pm \theta \frac{\theta}{\sqrt{n}}}$

5- $\hat{\theta} = \bar{x} = 33 \quad S^2 = 256 \quad n = 64$

Como es intervalo de 90%.

$$\alpha \rightarrow \frac{0.10}{2} = 0.05 \rightarrow z_{0.05} = 1.645$$

Usando la formula

$$\mu \pm 1.645\left(\frac{16}{\sqrt{64}}\right) \rightarrow 33 \pm 1.645(2) = \begin{pmatrix} 36.29 \\ 29.71 \end{pmatrix}$$

Intervalo de porcentaje es

$(29.71, 36.29)$

6- $n = 3440 \qquad z_{.05} = 1.645$

a) $\mu\ 90\% = \mu \pm 1.645\frac{6}{\sqrt{1370}}$

$n = 3440 \cdot 0.40 = 1376 = 1720 = 1376$

b) $\mu\ 99\% \qquad z_{.005} = 2.57$

$n = 1720 \qquad \mu\ 99\% = \mu \pm 2.57\left(\frac{\sigma}{\sqrt{1720}}\right)$

7- $n = 500$ 90% → con la tabla dist z

$z.\frac{\alpha}{2} = z.01$

$z_i = 2.32635$

$\sigma/\sqrt{n} = 3.1/\sqrt{500} = 0.14$

Usamos la fórmula

$P = (5.4 - 2.326 * 0.14) < \mu < (5.4 + 2.326 * 0.14)$

→ $5.07 < M < 5.725$

8- Tiempos que $\tilde{x} = 2959$ → $s = 39.08$

con 90% → $\frac{0.1}{2}$ → $z_{0.05} = 1.6448$

Por lo que $M = 2959 \pm 1.649\left(\frac{39.08}{\sqrt{8}}\right)$

→ $2959 \pm 23.13 =$

$M \in (2935.87, 2982.13)$

$2935.87 < M < 2982.13$

9- $n=14$ $\alpha\ 0.05 = 1.9449 = 1.7709$

$\bar{y} = 17.9$ $\sigma = 0.036$ $\rightarrow M = 17.9 \pm 1.771\left(\frac{0.034}{\sqrt{14}}\right)$

$M = 17.9 \pm 0.0171$

$(17.8829, 17.97)$

$\boxed{17.8829 < M < 17.97}$

10- Chi cuadrado $\rightarrow$ $n=6$ $\sigma^2 = 0.503$ $\bar{y} = 85.73$

$\alpha\ 0.10$

$\chi^2_{\frac{0.01}{2}} = \chi^2_{0.005} = 15$

$\chi^2_{,5} = 15$

$\chi^2_{,5.05} = 1$

$\frac{7(0.503)}{15} < \sigma^2 < \frac{7(.503)}{1} \rightarrow \boxed{0.23 < \sigma^2 < 3.521}$