

b.1 Confidence Interval

$$(\text{mean} - E, \text{mean} + E)$$

$$\uparrow$$

$$-z_c \cdot \frac{\sigma}{\sqrt{n}}$$

$$\uparrow$$

$$z_c \cdot \frac{\sigma}{\sqrt{n}}$$

11. $E = \pm z_c \cdot \frac{\text{st. dev.}}{\sqrt{\text{sample size}}}$

$C = 95\%$
 $\sigma = 8$
 $n = 40$
 $z_c = \pm 1.96$
 Mean = 192

$$\left(\bar{x} - E, \bar{x} + E \right)$$

$$\left(192 - 2.48, 192 + 2.48 \right)$$

$$\left(189.52, 194.48 \right)$$

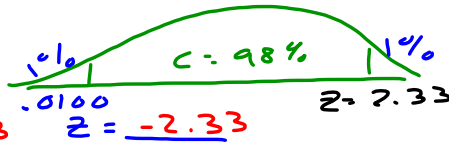
10) 1) $C = 98\%$

2) $z_c = \pm 2.33$

3) $\sigma = 3.8$

4) $n = 49$

5) Mean = 22.4



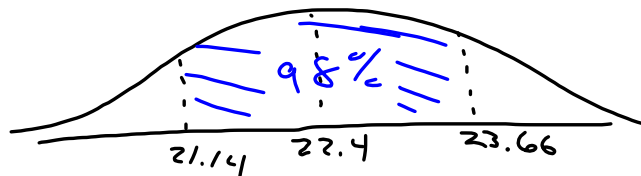
$$E = 2.33 \cdot \frac{3.8}{\sqrt{49}} = 1.26$$

$$E = -2.33 \cdot \frac{3.8}{\sqrt{49}} = -1.26$$

$$\left(\bar{x} - E, \bar{x} + E \right)$$

$$\left(22.4 - 1.26, 22.4 + 1.26 \right)$$

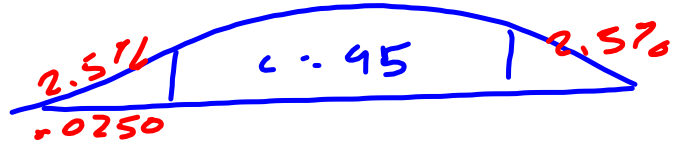
$$\left(21.14, 23.66 \right)$$



5) $C = .95$
 $C = 95\%$

$C = .85$
 $C = 85\%$

11) $C = 95\%$



① $z_c = \pm 1.96$

② $\sigma = 8$

$n = 40$
Sample size

$$E = 1.96 \cdot \frac{8}{\sqrt{40}}$$

$$= 2.48$$

③ mean = 192

$$E = -1.96 \cdot \frac{8}{\sqrt{40}}$$

confidence interval

$$= -2.48$$

$$(\text{mean} - E, \text{mean} + E)$$

$$(192 - 2.48, 192 + 2.48)$$

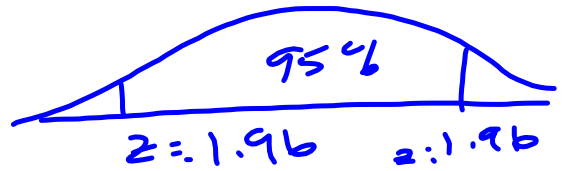
$$(189.52, 194.48)$$

11) $C = 95\%$

$Z_c = \pm 1.96$

$\sigma = 8$

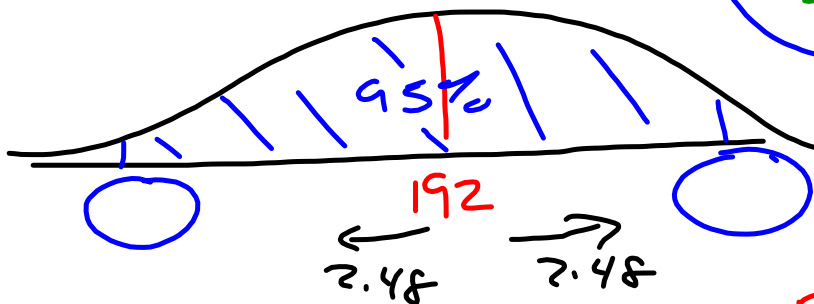
$n = 40$



$E = -1.96 \cdot \frac{8}{\sqrt{40}}$
 $= -2.48$

New Mean = 192

$E = 1.96 \cdot \frac{8}{\sqrt{40}}$
 $= 2.48$



margin of error

$\begin{pmatrix} \text{mean} - E & \text{mean} + E \\ 192 - 2.48 & 192 + 2.48 \end{pmatrix}$

$(189.52, 194.48)$