7-3 p345

Sample mean $\bar{x}$ best point estimate for population mean μ

normally distributed

$n \leq 30$

C.L.	90%	$z = 1.645$
	95%	$z = 1.96$
	99%	$z = 2.575$

$$E = z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}}$$

$$\bar{x} \pm E$$

$$\bar{x} - E < \mu < \bar{x} + E$$

p352

6. 98% C.L. $\alpha = .02$ ($1 - .98$)

$\frac{.02}{2}$ .01 within chart

$Z_{\alpha/2} = 2.33$

10. 95% C.L.

$n = 32$

$\bar{x} = 137$

$\sigma = 7$

$E = Z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}}$

$E = 1.96\left(\frac{7}{\sqrt{32}}\right)$

$E = 2.43$

$\bar{x} \pm E$

137 ± 2.43

$134.57 < \mu < 139.43$

You are 95% confident that the average stopping distance is between 134.57 and 139.43. ft ft

12. p352

$n = 25$ far from normal

Sample size

$n > 30$

$n \leq 30$ nomally distribated

14. p352

Minimum sample size

$$n = \left[\frac{Z_{\alpha/2} \cdot \sigma}{E} \right]^2$$

99% C.L.

$$n = \left[\frac{2.575\,(7)}{2} \right]^2$$

$$n = [9.0125]^2$$

$$n = 81.225$$

$$n = 82$$

22. $\bar{x} = 415{,}953$

$\sigma = 463{,}364$

a) 415,953

use $\bar{x}$ to predict μ

b) 95% C.L. $z_{\alpha/2} = 1.96$

$n = 40$

$$E = \frac{1.96\,(463{,}364)}{\sqrt{40}}$$

$E = 143{,}597.99$

$\bar{x} \pm E$

$415{,}953 \pm 143{,}598$

$272{,}355 < \mu < 559{,}551$

c)

Revised Schedule

March 14	Section 7-4
March 15	Section 7-4
March 25	Section 7-5
March 26	Chapter Review
March 27	Review
March 28	Test Chapter 7