#3 $$n \geq \left[\frac{z_{\alpha/2}\,\sigma_x}{\epsilon}\right]^2$$

here $\epsilon = 10$

$z_{\alpha/2} = 1.960$ (for 95% confidence)

$\sigma_x = ?$

Since σ_x unknown, we use only available estimate, s:

$\bar{x} = 97.2$

$$s^2 = \frac{1}{12-1}\left\{(150-97.2)^2 + (367-97.2)^2 + \dots + (107-97.2)^2\right\}$$

$$\doteq \frac{1}{11}\left\{142354\right\} = 12941$$

$\therefore$ $\underline{s \doteq 113.8}$

$$\therefore\ n \geq \left[\frac{1.960\,(113.8)}{10}\right]^2 = 497.5$$

$$\therefore\ \boxed{n = 498}$$