

解答

1. (1) $\bar{x} = 19.5$ (2) $u^2 = 48.3$
2. (1) $6.96 \leq \mu \leq 13.04$ (2) $13.49 \leq \mu \leq 16.51$
3. $0.320 \leq p \leq 0.480$

解説

1. (1) $\bar{x} = \frac{12 + 18 + 26 + 23 + 27 + 11}{6} = \frac{117}{6} = 19.5$
 (2) $\overline{x^2} = \frac{12^2 + 18^2 + 26^2 + 23^2 + 27^2 + 11^2}{6} = \frac{2523}{6} = 420.5$
 $u^2 = \frac{6}{5}(420.5 - 19.5^2) = 48.3$
2. (1) $t_4(0.025) = 2.776$
 $\bar{x} - t_4(0.025)\sqrt{\frac{u^2}{5}} = 6.96, \quad \bar{x} + t_4(0.025)\sqrt{\frac{u^2}{5}} = 13.04$
 (2) $t_{15}(0.025) = 2.131$
 $\bar{x} - t_{15}(0.025)\sqrt{\frac{u^2}{16}} = 13.49, \quad \bar{x} + t_{15}(0.025)\sqrt{\frac{u^2}{16}} = 16.51$
3. $\hat{p} = 0.4, z_{0.005} = 2.576$
 $\hat{p} - z_{0.005}\sqrt{\frac{\hat{p}(1-\hat{p})}{250}} = 0.320, \quad \hat{p} + z_{0.005}\sqrt{\frac{\hat{p}(1-\hat{p})}{250}} = 0.480$