

[問 2]

第39回 2級

AラインとBラインの母分散の違いの有無

$$n_A = 8, \quad n_B = 9$$

$$\begin{cases} H_0 : \sigma_A^2 = \sigma_B^2 & \textcircled{P} \\ H_1 : \sigma_A^2 \neq \sigma_B^2 & \textcircled{1} \end{cases}$$

$$\alpha = 0.05$$

$$(8) \underline{\underline{7}}$$

$$(9) \underline{\underline{1}}$$

棄却域 R

$$R : V_A \geq V_B \text{ のとき}$$

$$F_0 = \frac{V_A}{V_B} \geq F(\phi_A, \phi_B; \frac{\alpha}{2}) = F(7, 8; 0.025) = \underline{\underline{4.53}} \textcircled{+}$$

$$V_A < V_B$$

$$F_0 = \frac{V_B}{V_A} \geq F(\phi_B, \phi_A; \frac{\alpha}{2}) = F(8, 7; 0.025) = \underline{\underline{4.90}} \textcircled{2}$$

$$V_A = \frac{S_A}{n_A - 1} = \frac{5.875}{7} \doteq 0.839$$

$$(10) \underline{\underline{+}}$$

$$V_B = \frac{S_B}{n_B - 1} = \frac{12.222}{8} = 1.52775 \doteq 1.528$$

$$(11) \underline{\underline{7}}$$

$$V_A < V_B \text{ なので}$$

$$F_0 = \frac{V_B}{V_A} = \frac{1.528}{0.839} = \underline{\underline{1.821}} \textcircled{1}$$

$$(12) \underline{\underline{5}}$$

$$F_0 = 1.82 < 4.90 \text{ なので有意でない}$$

$$\sigma_A^2 \text{ と } \sigma_B^2 \text{ は異なるとはいえない}$$

$$(13) \underline{\underline{+}}$$