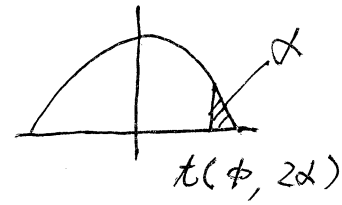
[演1]　第40回　2組

① $\begin{cases} H_0 : \mu = \mu_0 \\ H_1 : \mu > \mu_0 \end{cases}$　$\alpha = 0.05$



$$t_0 = \frac{\bar{x} - \mu_0}{\sqrt{\frac{V}{n}}} = \frac{9.3 - 9.1}{\sqrt{\frac{0.72}{8}}}$$

$$= \frac{0.2}{0.3} \fallingdotseq 0.6667$$ (ウ)

(1) ウ

$t(\phi, 2\alpha) = t(7, 0.1) = 1.895$ (キ)

(2) キ

点推定：$\hat{\mu} = \bar{x} = 9.3$

区間：$\bar{x} \pm t(\phi, \alpha)\sqrt{\frac{V}{n}}$

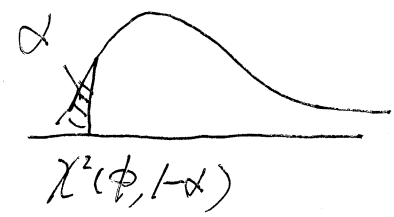
$$9.3 \pm t(7, 0.05)\sqrt{\frac{0.72}{8}}$$

$$\pm 2.365 \times 0.3$$

$$\pm 0.7095 (\fallingdotseq 0.710)$$ (エ)

(3) エ

② $\begin{cases} H_0 : \sigma^2 = \sigma_0^2 \\ H_1 : \sigma^2 < \sigma_0^2 \end{cases}$　$\alpha = 0.05$



$$\chi_0^2 = \frac{S}{\sigma_0^2} = \frac{1.526}{0.95^2} = 1.69085 \ (\fallingdotseq 1.691)$$ (エ)

(4) エ

$\chi^2(\phi, 1-\alpha) = \chi^2(7, 0.95) = 2.17$ (オ)

(5) オ

点：$\hat{\sigma}^2 = V = \frac{S}{n-1} = \frac{1.526}{7} = 0.218$ (イ)

(6) イ