

307 > 9036 統計學

(1)

$$(a) \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}z^2}$$

$$(e) E(Q) = 1$$

$$(f) \text{Std}[Q] = \sqrt{2}$$

$$(b) 0.68 > 7$$

$$(g) 0.68 > 7$$

$$(c) 1.96$$

$$(d) f_Q(q) = \begin{cases} \frac{1}{\sqrt{2\pi}q} e^{-\frac{1}{2}} & , q > 0 \\ 0 & , q \leq 0 \end{cases}$$

(2)

$$(a) f_T(t) = \begin{cases} e^{-t} & , t > 0 \\ 0 & , t \leq 0 \end{cases} \quad (\alpha=1, \beta=1)$$

$$(f) E[T_3] = \alpha\beta = 3 \cdot 1 = 3$$

$$(b) E[T] = \beta = 1$$

$$(d) 0.3679$$

$$(g) \text{Std}[T_3] = \sqrt{3}$$

$$(e) \alpha=3, \beta=1$$

$$f_{T_3}(t) = \begin{cases} \frac{1}{2} t^2 e^{-t} & , t > 0 \\ 0 & , t \leq 0 \end{cases}$$

$$(h) 0.4 > 3 >$$