

$$\int_{-\infty}^{\infty} x^2 \sqrt{\frac{\lambda}{\pi}} \cdot e^{-\lambda(x-c)^2} dx$$

$$\mu = x - c \rightarrow x = \mu + c \rightarrow x^2 = (\mu + c)^2$$

$$d\mu = dx \quad \begin{matrix} \searrow \\ x \rightarrow \pm \infty \rightarrow \mu \rightarrow \pm \infty \end{matrix}$$

$$A \cdot \int_{-\infty}^{\infty} (\mu + c)^2 e^{-\lambda \mu^2} d\mu =$$

$$= \int_{-\infty}^{\infty} \mu^2 e^{-\lambda \mu^2} d\mu \quad (A)$$

$$+ \int_{-\infty}^{\infty} 2\mu c e^{-\lambda \mu^2} d\mu \quad (B)$$

$$+ \int_{-\infty}^{\infty} c^2 e^{-\lambda \mu^2} d\mu \quad (C)$$