$$\int_{-\infty}^{\infty} x^2 \sqrt{\frac{\lambda}{\pi}} \cdot e^{\underbrace{-\lambda(x-a)^2}_{=\mu}} dx$$

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

$d\mu = dx$ ↳ $x \to \pm\infty \rightarrow \mu \to \pm\infty$

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

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

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

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