eyeet

1. A

$$\int_0^{10} \frac{e^{-\sqrt{x}}}{\sqrt{x}} \qquad u = \sqrt{x}$$

$$du = \frac{1}{2}x^{-1/2}$$

$$2\int_0^{\sqrt{10}} e^{-u}du$$

$$2(-e^{-u} - 1)\Big|_0^{\sqrt{10}}$$

$$2(-e^{-10} - 1) - (1 - 1)$$

$$2(-e^{-\sqrt{10}} + 1)$$

B

$$\begin{aligned}\int_0^{\infty} \frac{x}{e^x}dx &= \int_0^{\infty} xe^{-x} \\ &= -xe^{-x}|_0^{\infty} \\ &= 0 - 0 + \int_0^{\infty} e^{-x} \\ &= -e^{-x}|_0^{\infty} \\ &= 0 + 1 = 1\end{aligned}$$