

$$g(x) = 0,5 e^{-0,5x}$$

$$\begin{aligned} P(1 < x < 2) &= \int_1^2 0,5 e^{-0,5x} = \left[-e^{-0,5x} \right]_1^2 \\ &= -e^{-1} + e^{-0,5} \\ &= \frac{1}{e^{1/2}} - \frac{1}{e} = \underline{\underline{0,24}} \end{aligned}$$

$$E(x) = \int_0^{+\infty} t f(t) dt = \int_0^{+\infty} 0,5 t e^{-0,5t} dt = \frac{1}{0,5} = \underline{\underline{2}}$$