restart :
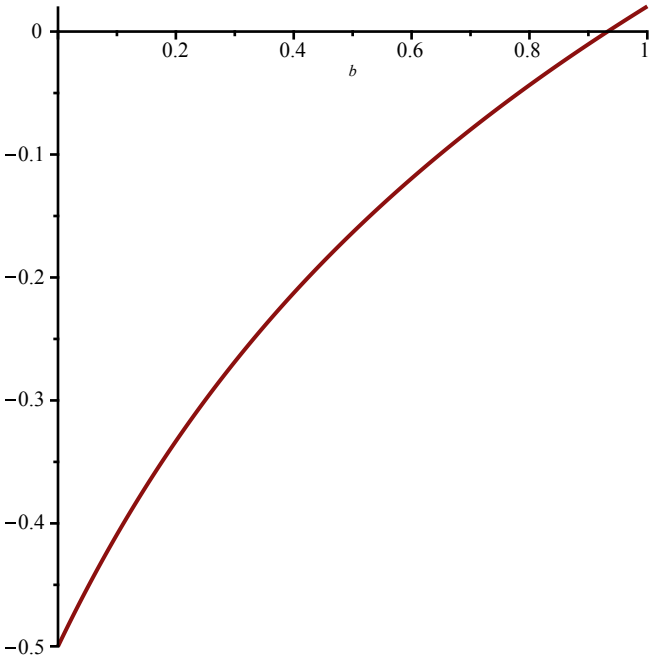
$$plot\left(1 + \frac{(1-2b)}{2} \cdot \exp(-b) - (b+1) \cdot \exp(-2 \cdot b) - \frac{\exp(-3 \cdot b)}{2} - \frac{1}{2}, b = 0..1\right)$$

$$fsolve\left(1 + \frac{(1-2b)}{2} \cdot \exp(-b) - (b+1) \cdot \exp(-2 \cdot b) - \frac{\exp(-3 \cdot b)}{2} - \frac{1}{2}, b = 0..1\right)$$

$$0.9326169316 \tag{1}$$