

Oppgave 1d, 2002 (K)

Fraksjon overlevende celler (S)

$$\text{Luft: } S = 0,4 e^{-0,25 \cdot 25} = \underline{\underline{7,72 \times 10^{-4}}}$$

$$N_2: S = 2,0 e^{-0,25 \cdot 25} = \underline{\underline{3,86 \times 10^{-3}}}$$

Fraksjon hypoksiske celler:

$$HF = \frac{S(\text{luft})}{S(N_2)} = \frac{0,4 e^{-\frac{1}{D_0} D}}{2,0 e^{-\frac{1}{D_0} D}} = \underline{\underline{0,20}} \quad (20\%)$$

Fraksjon overlevende celler:

$$\text{Luft: } S = 0,4 e^{-0,25 \cdot 75} = \underline{\underline{2,9 \times 10^{-9}}}$$

$$N_2: S = 2,0 e^{-0,25 \cdot 75} = \underline{\underline{1,4 \times 10^{-8}}}$$

Antall overlevende celler

$$\text{Luft: } 2,9 \times 10^{-9} \times 5,0 \times 10^8 = \underline{\underline{1,45}}$$

$$N_2: 1,4 \times 10^{-8} \times 5,0 \times 10^8 = \underline{\underline{7}}$$

Sannsynlighet for kurasjon:

$$\text{Luft: } P(0) = e^{-1,45} = \underline{\underline{0,23}}$$

$$N_2: P(0) = e^{-7} = \underline{\underline{9,1 \times 10^{-4}}}$$