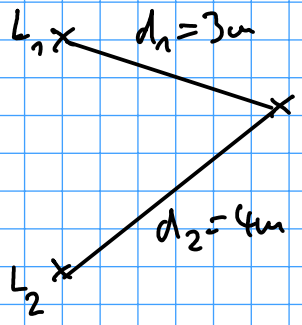
# Aufgabe 20




Wellenlänge $\lambda$ $\quad (f = \frac{c}{\lambda})$ $\quad (c = 340 \frac{m}{s})$

$n_1 = \frac{d_1}{\lambda}$ , $n_2 = \frac{d_2}{\lambda}$ $\quad (n_2 > n_1)$

$n_2 - n_1 = \frac{1}{2}(2n+1)$ $\quad n = 0, 1, 2 \ldots$ destruktive Interferenz

$\frac{d_2 - d_1}{\lambda} = \frac{1}{2}(2n+1) \Rightarrow \lambda = (d_2 - d_1)\frac{2}{2n+1}$

$\Rightarrow f = \frac{c}{\lambda} = (n+\frac{1}{2})\frac{c}{d_2 - d_1} = (2n+1)\frac{c}{2(d_2 - d_1)}$

$= (2n+1) \cdot 170\ Hz$

$= 170\ Hz,\ 510\ Hz,\ 850\ Hz, \ldots$