

Duimpiano

1 10,5 trillingen in 0,02 s → $T = \frac{0,02}{10,5} = 1,9048 \cdot 10^{-3} \text{ s}$

$f = \frac{1}{T} = 525 \text{ Hz}$ → strip 2

2 $L = \frac{1}{4} \lambda = 4,4 \text{ cm}$ → $\lambda = 4 \cdot 4,4 = 17,6 \text{ cm}$

strip 3 $f = 349 \text{ Hz}$
 $v = f \cdot \lambda = 349 \cdot 0,176 = 61 \text{ m/s}$

3 $L = \frac{1}{4} \lambda = 3,0 \text{ cm}$ → $\lambda = 4 \cdot 3,0 = 12,0 \text{ cm}$

strip 4 $f = 698 \text{ Hz}$
 $v = f \cdot \lambda = 698 \cdot 0,120 = 84 \text{ m/s} \neq 61 \text{ m/s}$

4 Rechte evenredigheid is alleen in figuur 4c te zien (zie rode lijn)

dus $v = k\sqrt{f}$

