

Trinn 3: Løse $\ddot{G} = c^2 k G$ der $k = -\frac{n^2 \pi^2}{L^2}$

$$G(t) = C \cos \frac{n\pi ct}{L} + D \sin \frac{n\pi ct}{L}$$

Derfor:

$$u_n(x,t) = \left\{ B_n \cos \frac{n\pi ct}{L} + B_n^* \sin \frac{n\pi ct}{L} \right\} \sin \frac{n\pi x}{L}$$

for $n=1, 2, 3, \dots$

Trinn 4: Superposisjonsprinsippet:

$$u(x,t) = \sum_{n=1}^{\infty} \left\{ B_n \cos \frac{n\pi ct}{L} + B_n^* \sin \frac{n\pi ct}{L} \right\} \sin \frac{n\pi x}{L}$$