opg 7 
$$u = Sin(kx) \cdot Cos(kct)$$
  
 $vi$  indsetter  $i$  Wave Sorm.

$$\frac{d^2u}{dt^2} = c^2 \frac{d^2u}{dx^2}$$

$$\frac{d^2}{dt^2} sin(kx) \cdot cos(kct) = c^2 \cdot \frac{d^2}{dx^2} Sin(kx) \cdot cos(kct)$$

$$\frac{d}{dt} + kc \cdot Sin(kct) \cdot Sin(kx) = c^2 \cdot \frac{d}{dx} \cdot (-k \cdot cos(kx) \cdot cos(kct))$$

$$+ k^2 \cdot c^2 \cdot cos(kct) \cdot Sin(kx) = c^2 \cdot (-k^2 \cdot Sin(kx) \cdot cos(kct))$$

$$k^2 \cdot c^2 \cdot cos(kct) \cdot Sin(kx) = -k^2 \cdot c^2 \cdot Sin(kx) \cdot cos(kct)$$