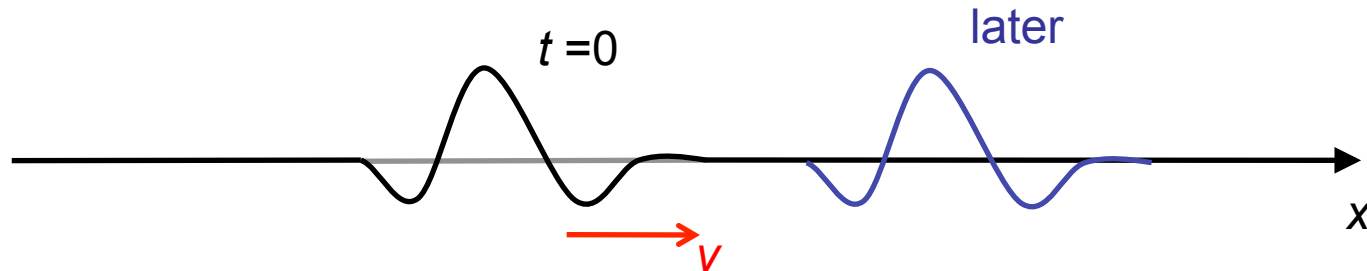


Wave Functional Form



Functional form at $t=0$:

$$y(x, t = 0) = g(x)$$

At $t=0$, peak is at position $x=c$:

$$y_m(t = 0) = g(c)$$

Later, peak is at position $x=c+vt$.

$$\longrightarrow c = x - vt$$

But you still get the peak by plugging c into $g(x)$:

$$y_m(t) = g(x - vt)$$

Since the shape stays the same, the full equation must be the same function g :

$$y(x, t) = g(x - vt)$$