

10. (a) Since $\lambda = 24\text{ cm}$, the wave speed is $v = \lambda f = (0.24\text{m})(25\text{ Hz}) = 6.0\text{ m/s}$.
(b) With x in centimeters and t in seconds, the equation for the wave is

$$y = A \sin[2\pi(x/\lambda + ft)] = (0.30\text{ cm}) \sin\left(\frac{\pi}{12}x + 50\pi t\right) .$$