

(15)

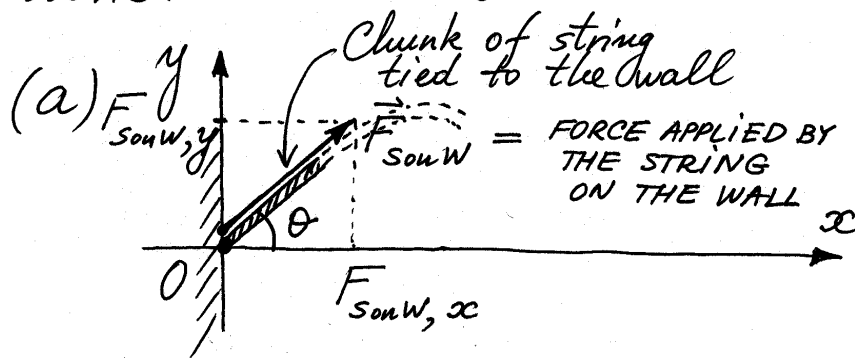
by expressing τ and μ in terms of the given quantities m, A, k, ω :

$$\mu = \frac{\text{MASS}}{\text{LENGTH}} = \frac{m}{L}$$

$$\sqrt{\frac{\tau}{\mu}} = c = \frac{\omega}{k} \Rightarrow \tau = \left(\frac{\omega}{k}\right)^2 \mu = \left(\frac{\omega}{k}\right)^2 \frac{m}{L}$$

$$\Rightarrow \tau = \left(\frac{\omega}{k}\right)^2 \frac{m}{L}$$

We are now ready to answer the questions:



Since the string can only PULL and cannot push or exert force sideways, the force exerted on the wall by the string points along the (tangent of) string itself and away from the wall.