

A mass oscillates on a spring with a period of 0.835 and an amplitude of 6.4 cm.

1) Write an equation for x vs t , assuming the mass starts at $x=A$ at time $t=0$.

2) Using the equation, determine the position of the spring at $t=7.05$.

$$1) x = A \cos\left(\frac{2\pi}{T} t\right) \quad \text{for SHM}$$

$$A = 6.4 \text{ cm}$$

$$T = 0.835$$

$$x = 6.4 \text{E-2 m} \cos\left(\frac{2\pi}{0.835} t\right)$$

(2)

2)

$$t = 7.05$$

Use Radian Mode!

$$x = 6.4 \text{ E-}2 \text{ m} \cos \left(\frac{2\pi}{0.895} 7.05 \right)$$

$$= \boxed{3.0 \text{ E-}2 \text{ m}}$$