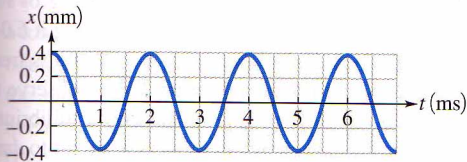


24. • Find the period, frequency, and angular frequency of (a) the second hand and (b) the minute hand of a wall clock.
25. • If an object on a horizontal frictionless surface is attached to a spring, displaced, and then released, it oscillates. Suppose it is displaced 0.120 m from its equilibrium position and released with zero initial speed. After 0.800 s, its displacement is found to be 0.120 m on the opposite side and it has passed the equilibrium position once during this interval. Find (a) the amplitude, (b) the period, and (c) the frequency of the motion.
26. • The graph shown in Figure 11.36 closely approximates the displacement x of a tuning fork as a function of time t as it is playing a single note. What are (a) the amplitude, (b) period, (c) frequency, and (d) angular frequency of this fork's motion?



▲ **FIGURE 11.36** Problem 26.

27. • The wings of the Blue-throated Hummingbird (*Lampornis clemenciae*), which inhabits Mexico and the southwestern United States, beat at a rate of up to 900 times per minute. Calculate (a) the period of vibration of the bird's wings, (b) the frequency of the wings' vibration, and (c) the angular frequency of the bird's wingbeats.