

## Attendance Quiz 13

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. A 6-lb weight is attached to the lower end of a coil spring suspended from the ceiling, the spring constant of the spring being 27 lb/ft. The weight comes to rest in its equilibrium position, and beginning at  $t=0$  an external force given by  $F(t) = 12 \cos 20t$  is applied to the system. Determine the resulting displacement as a function of the time, assuming damping is negligible.

2. A circuit has in series a constant electromotive force of 40 V, a resistor of  $10\Omega$ , and an inductor of 0.2 H. If the initial current is 0, find the current at time  $t > 0$ .