An oscillatory mass-spring system has a mechanical energy of 1.0 J, an amplitude of 0.10 m and a maximum speed of 1.0 m/s. What is the mass ?

A. 1 kg
B. 7 kg
C. 2 kg
D. 5 kg
E. 6 kg

A 0.8 kg block attached to a spring oscillates with simple harmonic motion according to the equation x = 0.5 (m) * cos( 20 (rad/s) * t (s) ). What is the potential energy stored in the spring when the block's velocity is 5 m/s ?

A. 70 J
B. 50 J
C. 60 J
D. 30 J
E. 40 J

A 2-kg body oscillates with simple harmonic motion according to the equation x = 6 * cos ( 3*pi*t + pi/3 ) where x is in meters, t is in seconds and the expression in the parentheses is in radians. What is the total energy of the system ?

A. 5.895 J
B. 3.198*(10**3) J
C. zero
D. 1000 J
E. 2.794*(10**3) J