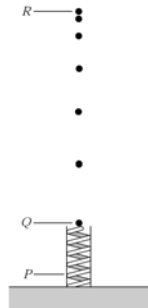


The figure shows the position of a small ball being shot straight up by a spring. Each black dot represents the position of the ball at a specific time. The time interval between each successive black dot is constant. The spring, with the ball atop, was initially compressed to position P and released. The ball left the spring at position Q and reaches its highest point at position R . Assuming that air resistance can be neglected, which statement is true?

In class Quiz #11-1

1. The ball has its maximum kinetic energy at point R
2. The acceleration of the ball is constant once the ball leaves the spring
3. The ball has its maximum kinetic energy at point P
4. The acceleration of the ball decreases once the ball loses contact with the spring
5. The total energy of the ball decreases as the ball moves from P to R



In class Quiz #11-2

A spring ($k=800 \text{ N/m}$) is compressed 10 cm. It is used to push a 1.0 kg block along a frictionless track and up a $\theta=30^\circ$ frictionless incline. How high above its starting level does the block rise?

41 cm

B. 82 cm

C. 12.8 m

D. 3.19 m

E. Must know distance x block is away from incline

$$h = \frac{kx^2}{2mg}$$

In class Quiz #11-3

A kilowatt-hour has the units of--

- A. Power
- B. Time
2. C. Energy 1 Kwh = 3.6×10^6 Joules
- D. Force
- E. Length