


Two identical mass-spring systems are displaced different amounts from equilibrium and then released at different times. Which of the following is true for both systems?

- A. The frequencies and the periods are the same.
- B. The amplitudes and the frequencies are the same.
- C. The phase constants and the amplitude are the same.
- D. The periods and the phase constants are the same.



What happens to the period of a pendulum if it is moved to a planet whose gravitational acceleration is one-fourth that of Earth?

- A. The period is halved.
- B. The period is doubled.
- C. The period is quadrupled.
- D. The period is quartered.

Two different mass-spring systems are oscillating with the same amplitude. If one has twice as much total energy as the other, how does the spring constant of the more energetic system compare with that of the less energetic system?

- A. It is the same.
- B. It is half as great.
- C. It is one-fourth as great.
- D. It is twice as great.
- E. It is four times as great.