

Name: _____

CP SHM Practice Problems

What is the period of oscillation of a mass of 40 kg on a spring with constant $k = 10 \text{ N/m}$?

(Ans: 12.566 seconds)

A simple pendulum and a mass-spring system are taken to the Moon, where the gravitational field strength is less than on Earth.

Which line, A to D, correctly describes the change, if any, in the period when compared with its value on Earth?

	period of pendulum	period of mass-spring system
A	decrease	decrease
B	increase	increase
C	no change	decrease
D	increase	no change

(Ans: D)

A child swings on a swing with a 3 m long rope.

What is the child's period?

What is their frequency?

(Ans: 3.47 seconds, 0.288 hz)

A 20 g particle on a spring moves in simple harmonic motion with a frequency of 3 cycles per second and an amplitude of 5 cm.

How far does the particle move in one cycle?

What is the spring constant?

(Ans: 20cm or 0.2m, 7.10 N/m)