

Section

12-1

HOLT PHYSICS

Concept Review*Simple Harmonic Motion*

- 1.** A clown is rocking on a rocking chair in the dark. His glowing red nose moves back and forth a distance of 0.42 m exactly 30 times a minute, in a simple harmonic motion.

a. What is the amplitude of this motion?

b. What is the period of this motion?

c. What is the frequency of this motion?

- d.** The top of the clown's hat contains a small light bulb that shines a narrow light beam. The beam makes a spot on the wall that goes back and forth between two dots placed 1.00 m apart as the clown rocks. What are the amplitude, period, and frequency of the spot's motion?

- 2.** A 5.00 kg block hung on a spring causes a 10.0 cm elongation of the spring.

a. What is the restoring force exerted on the block by the spring?

b. What is the spring constant?

c. What force is required to stretch this spring 8.50 cm horizontally?

d. What will the spring's elongation be when pulled by a force of 77.7 N?
