Edinburgh Napier UNIVERSITY

Physics-Based Animation (SET09119)

Tutorial 09 - Springs & Elastic Strings

1 Question

Elastic objects can store elastic potential energy when they are:

(a) Stretched only
(b) Squashed only
(c) Stretched or squashed

2 Question

When an elastic object is changed from its original shape:

(a) Energy is released
(b) Work is done
(c) It will make a twanging sound

3 Question

Until a certain limit is reached, Hooke's Law states that:

(a) The extension of an elastic object is directly proportional to the force applied
(b) The extension of an elastic object is indirectly proportional to the force applied
(c) The extension of an elastic object is inversely proportional to the force applied

4 Question

In the formula $F = (k)(x)$:

(a) k is the spring constant
(b) k is the elastic limit
(c) k is number of turns in the spring's coil

5 Question

For a certain spring, k = 100 N/m. The force needed to:

(a) Extend the spring by 10 cm is 1000 N.
(b) Extend the spring by 10 cm is 100 N.
(c) Extend the spring by 10 cm is 10 N.

6 Question

A spring with k = 10 N/m is stretched from 0.2 m to 0.5 m. The force needed is:

(a) 2 N
(b) 3 N
(c) 5 N