Physics 11 Unit 2 – Worksheet #3 – Hooke's Law

Name: _____

1. An elastic is stretched 8 cm by a 5 N force.

a) Find the spring constant "k" for the elastic.

b) How far would the elastic be stretched by a 7 N force?

c) How much force would be required to stretch the elastic 18 cm?

2. A spring is compressed 1.2 cm by a 240 N force. How much force is required to compress the spring 1.5 cm?

3. A wooden ruler Is bent 2.4 cm by a 4.6 N force. How far is the ruler bent by a 6.8 N force?

4. An elastic is stretched 11 cm by a 16 N force.

a) How long is the elastic stretched by a 5 N force?

b) How much force is required to stretch the elastic 17 cm?

5. A 4.4 kg block is sitting on a table. A string is pulling on the block straight up with a force of 8 N. The block is being pulled to the right with a force of 18 N. The coefficient of friction between the block and the table is 0.4
Does the block move?

Harder Problem

6. A 7 kg block sits on a table with a coefficient of friction of 0.35
The block is pulled to the right by a force of 45 N at 28 degrees above the horizon.
Does the block move?