

Work each of the following problems. SHOW ALL WORK.

5. A spring with a spring constant of 20 N/m is compressed 0.5 m. How much energy is stored in this spring?
6. A spring with a spring constant of 100 N/m is stretched 0.2 m. How much energy is stored in this spring?
7. A spring is placed horizontally on a frictionless table. The spring constant of the spring is 50 N/m, and it is compressed 0.1 m by a 2 kg block.
- How much energy is stored in the spring?
 - When the spring expands back to its resting position, it pushes the block away. What is the kinetic energy of the block as a result of this force?
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- What is the velocity of the block as it is pushed away by the spring?

Name:

Date:

Work each of the following problems. SHOW ALL WORK.

8. A 1.5 kg block moves at 4 m/s along a frictionless horizontal surface. The block slides into a spring with a spring constant of 240 N/m. How far is the spring compressed after the block comes to rest?