Practice Chapter 5: Work, Power, and Energy: Scoring

Student: Student #1 - Attempt #1 - Score: 8.00/8

1. Phil catches a baseball pitch in his glove. The glove exerts a force of 48N through a displacement of 0.21m. What is the magnitude of the work done on the ball?
   - Less than 10J
   - Between 10 and 20J
   - Between 20 and 30J
   - More than 30J

2. The form of energy associated with the stiffness and deformability of an object is called
   - gravitational potential energy
   - kinetic energy
   - strain potential energy
   - molecular energy
   - none of the above

3. The difference between positive and negative work stems from the direction of motion of the body the force acts on and the
   - magnitude of the force acting on the body
   - point of application of the force acting on the body
   - line of action of the force acting on the body
   - direction of the force acting on the body
   - There is no difference between positive and negative

4. In the kinetic energy equation, which component is most influential should you change it?
All components are equally important in the calculation of kinetic energy

- mass
- gravity
- height
- velocity

5. What is the gravitational potential energy of a circus performer with a mass of 50 kg walking on a tightrope 10 m above the ground?

- Less than 2500 J
- Between 2500 and 3500 J
- Between 3500 and 4500 J
- Between 4500 and 5500 J
- More than 5500 J

6. A person performs a bench press. The bar's mass is 50 kg. When this person's arms are extended, the bar is 0.6 m above the starting point. How much work does the person do to push the bar off his chest to full extension of his arms?

- 0 J
- 294 J
- -294 J
- 588 J
- -588 J

7. A soft foam pit is used for landing during the pole vault. The foam pit cushions the landing of the vaulter by

- reducing the friction encountered
- reducing the displacement during the landing
- increasing the friction encountered
- increasing the displacement during the landing
8. A volleyball player (weight = -600 N) lands from a spike attempt and immediately jumps up to try for a block. When she first contacts the ground, she is moving at 3 m/s, and then as she leaves the ground for the block she is moving at 4 m/s. Her kinetic energy at first contact is

Less than -200 J  
Between -200 and 0 J  
Between 0 and 200 J  
More than 200 J