**Work Energy Power Practice Problems**

**Energy**

1. How many joules of potential energy does a 0.65 kg book gain when it is elevated 3 m? When it is elevated 6 m?
2. What is the kinetic energy of a 2.5 kg snow ball thrown through the air at 4 m/s?
3. A 3.2kg book is sitting on top of a counter. The book has 50 J of potential energy. How tall is the counter?
4. The 3.2kg book slides off the counter and has 50 J of kinetic energy just before it lands on the ground. How fast is the book falling just before it hits the ground?
5. A spring is stretched 10 cm and has a spring constant of 680 N/m. Calculate the potential energy of the spring.

**Work**

1. A book weighing 1.7 N is lifted 1.5 m. How much work was done?
2. A force of 150 N was necessary to lift a rock. A total of 200 J of work was done. How far was the rock lifted?

**Power**

1. How much power is used if a force of 43 N is used to push a box a distance of 8m in 3s?
2. What is the power of a kitchen blender if it can perform 3,000 J of work in 12s?

**Work Energy Theorem**

1. A 2.0kg bird is flying through the air at a speed of 15m/s. The bird approaches a building with mirrored windows and, sadly, runs straight into the building.   
   1. What is the bird’s kinetic energy when flying?
   2. What is the bird’s kinetic energy after running into the window?
   3. How much work does the window do on the bird?

**Conservation of Energy**

1. Fill in the missing blanks:

