KE & PE Answers

1. A 12 kg dog is running at a velocity of 5 m/s. How much **kinetic energy** does it have?
    - **KE = 0.5 x mass x velocity^2**
    - KE = 0.5 x 12 x 25 = **150 JOULES**
2. *A 5000 kg truck is moving at a velocity of 30 m/s. How much **kinetic energy** does it have?*
    - KE = 0.5 x 5000 x 900 = **2,250,000 joules**
3. *If you lift a 50 N watermelon to the top of a 2 m fridge, how much **potential energy** does it have?*
    - **PE = mass x 9.8 x height**
    - PE = 50 x 9.8 x 2 = **980 joules**
4. *Your angry teacher is holding a 1 N book over your head at a height of 0.5 m. How much **potential energy** does the book have?*
    - PE = 1 x 9.8 x 0.5 = **4.9 joules**
5. *Two divers are standing at the end of a 10 m diving platform. The first diver, Andy, weighs 20 N. The second diver, Jim, weighs 30 N. Which one has more **potential energy**?*
    - **Jim**, because he has more weight