

More Energy Calculation Practice

1. Calculate the potential energy of a rock with a mass of 55 kg while sitting on a cliff that is 27 m high.

2. What distance is a book from the floor if the book contains 196 J of potential energy and has a mass of 5.0 kg ?

3. An automobile is sitting on a hill which is $20.\text{ m}$ higher than ground level. Find the mass of the automobile if it contains $362\ 600\text{ J}$ potential energy.

4. Calculate the kinetic energy of the rock in problem #1 if the rock rolls down the hill with a velocity of $8.0\frac{\text{m}}{\text{s}}$.

5. Calculate the kinetic energy of a truck that has a mass of 2900 kg and is moving at $55\frac{\text{m}}{\text{s}}$.

6. Find the mass of a car that is travelling at a velocity of $60.\frac{\text{m}}{\text{s}}$. The car has $5\ 040\ 000\text{ J}$ of kinetic energy.

7. How fast is a ball rolling if it contains 98 J of kinetic energy and has a mass of 4.0 kg ?

8. A $10.\text{ kg}$ mass is lifted to a height of 2.0 m . What is its potential energy at this position?

9. At what height is an object that has a mass of 16 kg , if its gravitational potential energy is 7500 J ?
10. What potential energy is acquired by a hammer with a mass of 0.75 kg when raised to 0.35 m ?
11. A book with a mass of 1.0 kg is dropped from a height of 3.0 m . What is the potential energy of the book when it reaches the floor?
12. At what height is an object that has a mass of $50.\text{ kg}$, if its gravitational potential energy is 9800 J ?
13. What is the mass of an object if its gravitational potential energy is 3822 J and it is 15 m above the ground?
14. An object with a mass of $20.\text{ kg}$ and potential energy of 584 J is what distance above the ground?