



Energy, Power and Work

2003

- 6 A horse of weight 6000N gallops at a speed of 16 m/s. Taking the acceleration of free fall as 10 m/s^2 , calculate the kinetic energy of the horse. (Give your answer in kJ.)



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2004

- 9 A ball is thrown vertically upwards and leaves the thrower's hand with a speed of 12 m/s. Calculate the height to which it rises. You may assume that all of the initial kinetic energy of the ball has been converted into gravitational potential energy when the ball reaches its highest point. (Take the value of g to be 10 N/kg.)



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2007

11 Below are four statements about thermal (heat) energy.

- 1 A substance can lose heat energy without its temperature falling.
- 2 Heat energy can pass through a vacuum.
- 3 Steam at 100°C has more heat energy than the same mass of boiling water at 100°C
- 4 When a container of water is cooled near the top, a convection current is set up in the water.

Which statements are true?

- A 1, 2 and 3
- B 2, 3 and 4
- C 1, 2 and 4
- D 1, 3 and 4
- E all of the statements