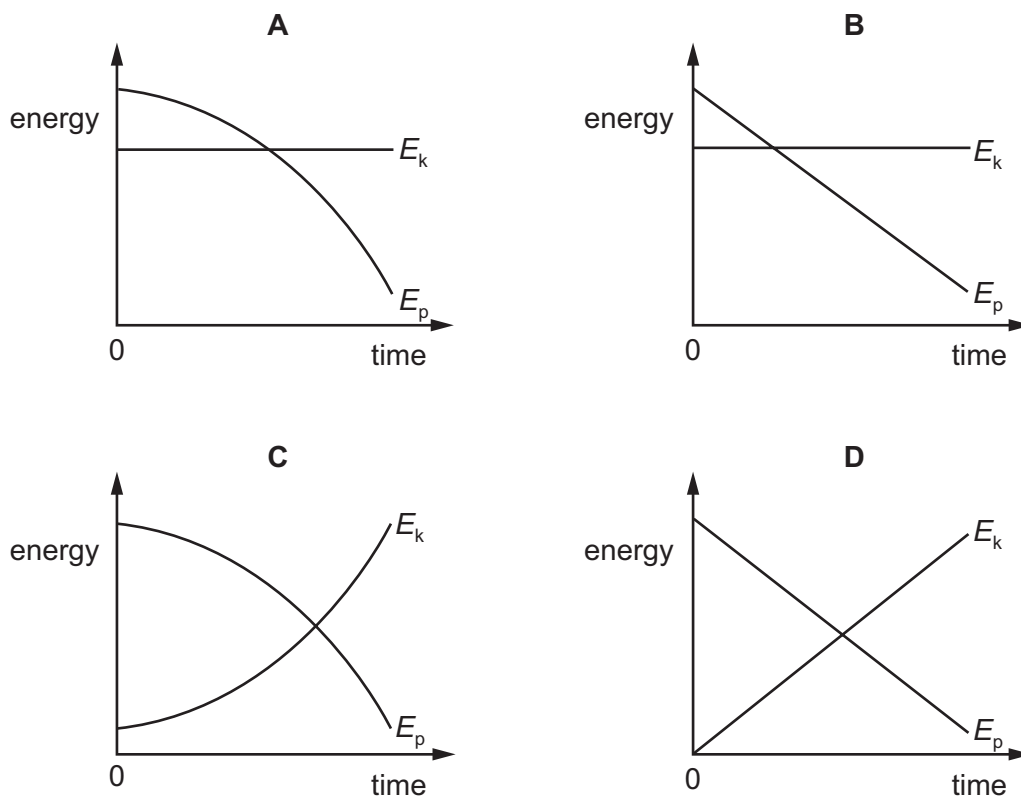


- 16** A steel ball is falling at constant speed in oil.

Which graph shows the variation with time of the gravitational potential energy E_p and the kinetic energy E_k of the ball?



- 17** The maximum useful output power of a car travelling on a horizontal road is P . The total resistive force acting on the car is kv^2 , where v is the speed of the car and k is a constant.

Which equation is correct when the car is travelling at maximum speed?

A $v^3 = \frac{P}{k}$
 B $v^2 = \frac{P}{k}$
 C $v = \left(\frac{P}{k}\right)^2$
 D $v = \left(\frac{P}{k}\right)^3$

- 18** Initially, four identical uniform blocks, each of mass m and thickness h , are spread on a table.



The acceleration of free fall is g .

How much work is done on the blocks in stacking them on top of one another?

A $3mgh$
 B $6mgh$
 C $8mgh$
 D $10mgh$