(EPC03-0001H)

- A car moving on a straight road covers one third of the distance with 20 km/h and the rest with 60 km/h. The average speed is

  A) 40 km/h
  B) 80 km/h
  C) $46\frac{2}{3}$ km/h
  D) 36 km/h

(EPC03-0002E)

- If the displacement of a particle is directly proportional to the square of time. Then particle is moving with

  A) Uniform acceleration
  B) Variable acceleration
  A) C) Uniform velocity   \
  C) Variable acceleration but uniform velocity

(EPC03-0003E)

- A particle starts from rest. Its acceleration (a) verus time (t) is as shown in Figure. The maximum speed of the particle will be:
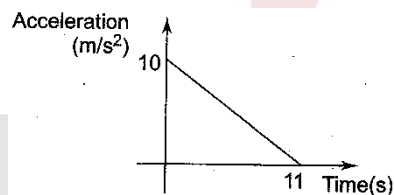
  A) 110 m/s
  B) 55 m/s
  C) 550 m/s
  D) 660 m/s

(EPC03-0004E)

- When two bodies move towards each other with constant speeds, the distance between them decreases at the rate of 6 m/s. If they move in the same direction with the same speeds, the distance between them increases at the rate of 4 m/s. Then their speeds are

  A) 5 m/s and 1 m/s
  B) 3 m/s and 3 m/s
  C) 4 m/s and 2 m/s
  D) none of the above

(EPC03-0005M)

- A stone is dropped from a height h. Simultaneously, another stone is thrown up from the ground which reaches a height $4h$. The two stones cross each other after time

  A) $\sqrt{\dfrac{h}{2g}}$
  B) $\sqrt{\dfrac{h}{8g}}$
  C) $\sqrt{8hg}$
  D) $\sqrt{2hg}$

(EPC03-0006M)

- The speed with which a ball should be thrown down, so that it bounces 10 m higher than its original level, assuming no energy loss in striking the ground, is

  A) 10 m/s
  B) 14 m/s
  C) 20 m/s
  D) None of the above

0349-7869821

(EPC03-0008E)

- A stone, thrown vertically upwards from the top of a tower with an initial velocity u, reaches the ground with a velocity $3u$. The height of the tower is

  A) $\dfrac{3u^2}{g}$

  B) $\dfrac{4u^2}{g}$

  C) $\dfrac{6u^2}{g}$

  D) $\dfrac{9u^2}{g}$

(EPC03-0010E)

- A body, released from the top of a tower of height h, takes time t to reach the ground. At time $t/2$ its height from the ground was

  A) $h/4$
  B) $h/3$
  C) $h/2$
  D) $3h/4$

(EPC03-0011H)

- A ball is dropped from a great height. One second later, another ball is dropped from the same height. The distance between them 3 s after the first ball is dropped is (g = 10 m/s^2)

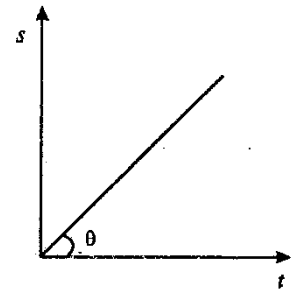 A) 25 m
  B) 20 m
  C) 50 m
  D) 10 m
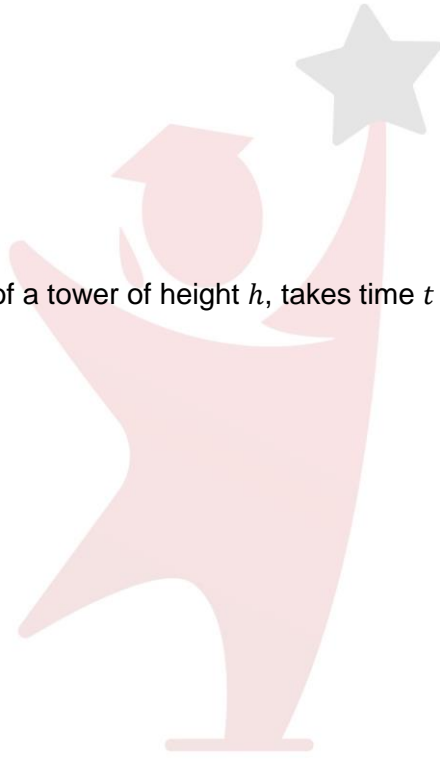
(EPC03-0012E)

- A car travels for a certain time. Its speed during the first half time is v_1 and that during the second half time is v_2. Find the average speed.

  A) $v_1 + v_2$

  B) $\frac{v_1 + v_2}{2}$

  C) $\frac{2}{v_1 + v_2}$

  D) $\frac{2v_1 v_2}{v_1 + v_2}$

(EPC03-0013E)

- The displacement-time graphs for two particles A and B are straight lines inclined at 60º and 30º to the time axis. Find the ratio of their speeds.

  A) $\sqrt{3}$

  B) 3

  C) $\frac{1}{\sqrt{3}}$

  D) $3 + \sqrt{3}$

(EPC03-0015E)

- A ball is projected vertically upwards form the ground with a velocity of 20 m/s. How long will it take to reach the highest point? (Take $g = 10$ m/s^2)
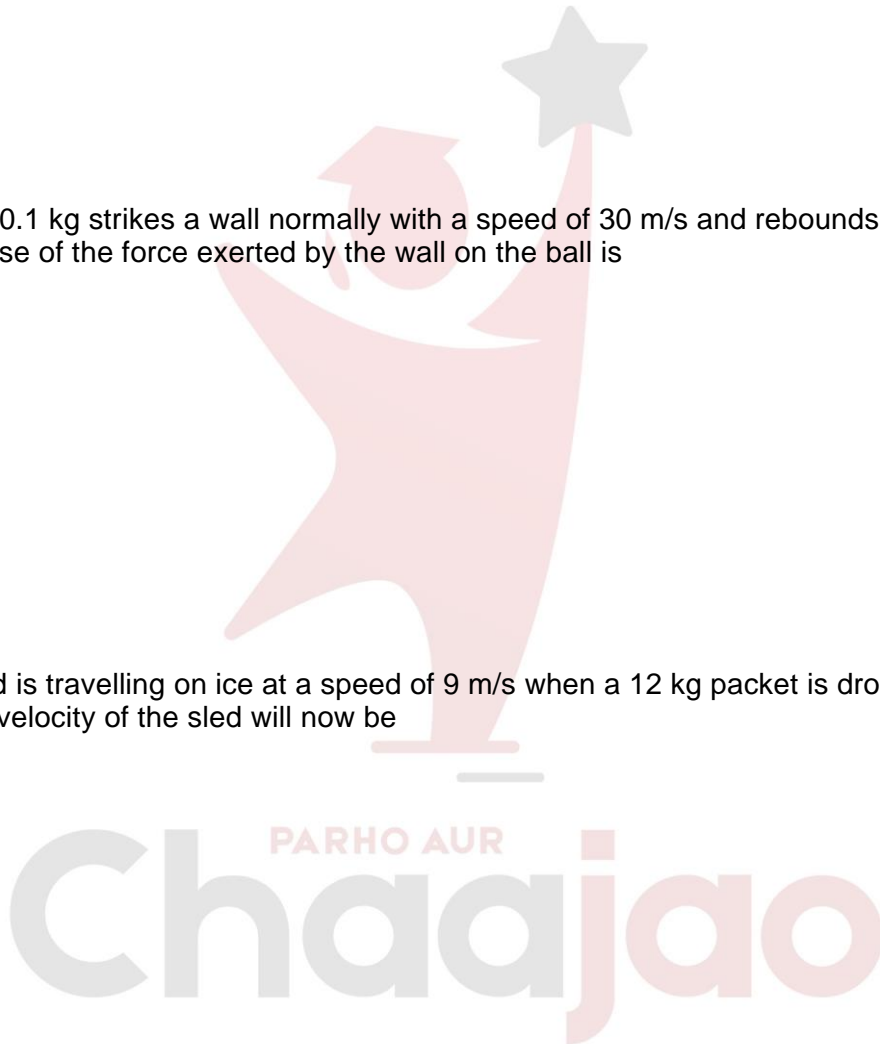
  A) 1 s

  B) 3 s

  C) 2 s

  D) 4 s

(EPC03-0016M)

- Two masses, each equal to m, are attached to one another by a massless string passing over a smooth pulley. The tension in the string is

  A) *mg*
  B) *2mg*
  C) *mg/2*
  D) zero

(EPC03-0017E)

- A ball of mass 0.1 kg strikes a wall normally with a speed of 30 m/s and rebounds with a speed of 20 m/s. The impulse of the force exerted by the wall on the ball is

  A) 1 NS
  B) 5 NS
  C) 2 NS
  D) 3 NS

(EPC03-0021M)

- A 6 kg box sled is travelling on ice at a speed of 9 m/s when a 12 kg packet is dropped into it vertically. The velocity of the sled will now be

  A) 3 m/s
  B) 4 m/s
  C) 6 m/s
  D) 8 m/s

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Answer key	
1	D
2	A
3	B
4	A
5	B
6	B
7	B
8	A
9	D
10	A
11	B
12	B
13	C
14	B
15	A

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