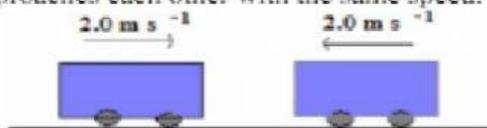


NAME :

1. A lorry of mass 8000kg is moving with a velocity of 30 ms^{-1} . The lorry is then accidentally collides with a car of mass 1500kg moving in the same direction with a velocity of 20 ms^{-1} . After the collision, both the vehicles attach together and move with a speed of velocity v . Find the value of v .
A 20 ms^{-1}
B 24.4 ms^{-1}
C 26.46 ms^{-1}
D 28.42 ms^{-1}
2. A Car A of mass 600 kg moving at 40 ms^{-1} collides with a car B of mass 800 kg moving at 20 ms^{-1} in the same direction. If car B moves forwards at 30 ms^{-1} by the impact, what is the velocity, v , of the car A immediately after the crash?
A 20.56 ms^{-1}
B 24.57 ms^{-1}
C 26.67 ms^{-1}
D 29.72 ms^{-1}
3. A 0.50kg ball traveling at 6.0 ms^{-1} collides head-on with a 1.0 kg ball moving in the opposite direction at a speed of 12.0 ms^{-1} . The 0.50kg ball moves backward at 14.0 ms^{-1} after the collision. Find the velocity of the second ball after collision.
A -2 ms^{-1}
B -20 ms^{-1}
C 0.2 ms^{-1}
D 0.02 ms^{-1}
4. A man fires a rifle which has mass of 2.5 kg. If the mass of the bullet is 10 g and it reaches a velocity of 250 m/s after shooting, what is the recoil velocity of the pistol?
A -10.0 ms^{-1}
B -1.0 ms^{-1}
C -0.1 ms^{-1}
D -1.2 ms^{-1}

5.

Diagram shows two trolleys of the same mass approaches each other with the same speed.



When the collision between the trolleys is an elastic collision, what happens to the trolleys after the collision?

- A The trolleys stop
- B The trolleys move off together
- C The trolleys move off separately in opposite directions