

Planet Holloway websheet 6.3

Cp Physics Momentum

You may print this out and write on it or work on your own paper.

Show all work.

1. A 2 kg chunk of putty is thrown at 24 m/s at a 6 kg block on a frictionless surface originally at rest. How fast do the block and putty move after the putty has stuck to the block?
2. Which has more momentum, a 2130 kg truck moving at 30 km/h or a 879 kg car moving at 75 km/h?
3. When clay collides with a solid object they have an _____ collision?
4. A tennis ball of 0.3 kg is moving at 8 m/s when it is struck by a racket sending it in the opposite direction at 14 m/s. What is the ball's change in momentum?
5. If the tennis ball in the problem above is in contact with the racket for 0.2 seconds, what is the average force on the ball?
6. An astronaut, mass 70 kg, throws a 3 kg wrench at 6 m/s during a space walk. How fast does the astronaut drift away?
7. What is the average momentum of a 40 kg skateboarder who travels 150 m in 30 seconds?

Answers

1. 6 m/s
2. the car
- 3.
4. -6.6 kg-m/s
5. 33 N
6. 0.26 m/s
7. 200 kg-m/s