

Name: _____ Date: _____
Physics

Review



Momentum

Directions: Read each statement carefully, then choose the best answer for that statements.

- _____ 1. The reason dashboards are padded is that padding will ...
- a) increase the force of an impact in a collision
 - b) increase the time of impact in a collision
 - c) decrease the momentum of a collision
- _____ 2. To increase the momentum of a golf ball, we could ...
- a) increase the force acting on it
 - b) increase the time of contact with the ball
 - c) follow through when hitting the ball
 - d) all the above
- _____ 3. Two gliders having the same mass and speeds move toward each other on an air track and stick together. After the collision the velocity of the gliders is ...
- a) twice the original velocity
 - b) the same as the original velocity
 - c) one half the original velocity
 - d) zero
- _____ 4. The momentum of an object is defined as the object's ...
- a) mass times its acceleration
 - b) mass times its velocity
 - c) force times its acceleration
 - d) none of the above
- _____ 5. Suppose a girl is standing on a pond where there is no friction between her feet and the ice; to get off the ice, she must...
- a) bend over touching the ice in front of her, then bring her feet to her hands
 - b) throw something in the direction opposite to that in which she wants to go
 - c) walk very slowly on tiptoe
 - d) get on her hands and knees and crawl off the ice
- _____ 6. A freight train rolls along a track with considerable momentum. If it were to roll at the same speed but had twice as much mass, its momentum would be ...
- a) zero
 - b) doubled
 - c) quadrupled
 - d) unchanged

- _____ 7. Two objects, A and B, have the same size and shape, but A is twice as heavy as B. When they are dropped simultaneously from a tower, they reach the ground at the same time, but **A** has a greater ...
- a) speed
 - b) acceleration
 - c) momentum
 - d) All the above
- _____ 8. Which of the following is not an example of an elastic (or nearly elastic) collision?
- a) gas molecules bouncing off one another
 - b) a super ball bouncing off the floor
 - c) a piece of soft clay bouncing off the wall
 - d) billiard balls colliding

Momentum

Directions: Solve and show your work

- _____ 9. A 7.50 kg ball has a momentum of 64.0 kg·m/s. What is the ball's velocity?

Impulse

Directions: Solve and show your work

- _____ 10. A car weighing 23,500 N and moving at 15.0 m/s is acted upon by a 960.0 N force until it is brought to a stop.
- _____
- a) What is the car's momentum?
 - b) How long does the braking force act on the car to bring it to a stop.

***"Great minds discuss ideas, average minds discuss events,
small minds discuss people." -- Hyman Rickover***