

Student's Name: _____

Grade 11th

27th November, 2025

Q1) Define the following:

Rigid Body _____

Momentum _____

Q2) Complete the following:

_____ is what determining if the collision is _____ collision or _____ collision.

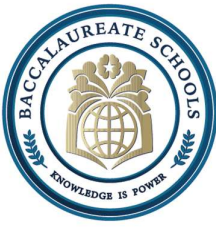
In collisions _____ is always conserved, velocity is _____.

Linear momentum is conserved when there is no _____ acting on the system.

Q3) A 1.2 kg cart moving at 5.0 m/s to the right collides elastically with a 3.0 kg cart initially at rest on a frictionless track.

(a) Find the final velocities of both carts.

(b) State whether the lighter cart reverses direction or continues forward after the collision.



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Q4) A 2.0 kg glider moves at 8.0 m/s to the right and collides head-on with a 4.0 kg glider moving 3.0 m/s to the left. After the collision, the 2.0 kg glider is observed moving to the left at 2.0 m/s.

- (a) Determine the final velocity of the 4.0 kg glider.
- (b) Using physics reasoning — not equations — explain whether the result makes physical sense in terms of mass and momentum distribution.
- (c) State whether kinetic energy increased, decreased, or stayed constant, and state what is the collision's type?