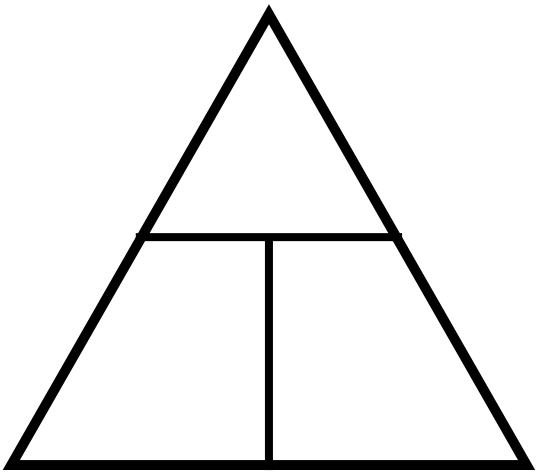
Name: **Date:**

CALCULATING MOMENTUM

p **m** **v**



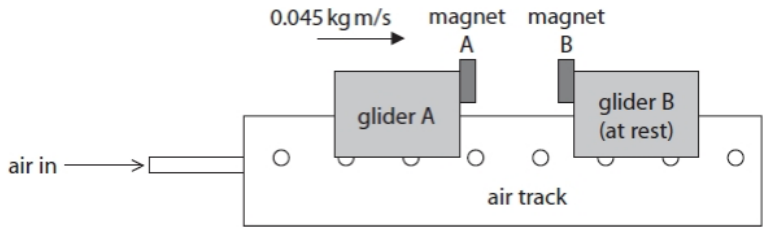
Conservation of Momentum

a. Calculate the momentum of a 750 kg car traveling at a velocity of 25 m/s.

b. A 3000 kg truck has a momentum of 45000 kg m/s. What is the mass (m) of the truck?

c. A 500 kg car has a momentum of 7500 kg m/s. What is the velocity (v) of the car?

State the total momentum of glider A and glider B after the collision.



After the collision, the momentum of glider A is 0.021 kg m/s to the left. Calculate the momentum of glider B after the collision.

Name: Date: Period:

MOMENTUM PRACTICE

Directions: For each problem below, identify the variable you will be solving for and write the formula, identify the unknowns, plug numbers into the equation and solve for the answer.

Problem	What are you solving for? Circle your *p*, m, or v and write the formula.	Identify the known variables.	Plug known variables into equation. Solve.	Answer, include units.
A ball with a mass of 0.4 kg is kicked with a velocity of 8 m/s. Determine the momentum.	p m v			
A 600 kg motorcycle is moving with an unknown velocity, it has a momentum of 4500 kg m/s. Calculate the velocity.	p m v			
An object with a mass of 150 kg is moving at a velocity of 10 m/s. Determine the momentum.	p m v			
An unknown mass is moving with a velocity of 20 m/s. If its momentum is 600 kg m/s, what is the mass of the object?	p m v			

Two ice skaters, A and B, initially at rest on a frictionless surface, push off each other. Skater A has a mass (m_1) of 70 kg, and skater B has a mass (m_2) of 55 kg. After the push, skater A moves to the right with a velocity (v_1) of 2 m/s. Determine the velocity (v_2) of skater B after the push, assuming the conservation of momentum.