

Name \_\_\_\_\_

Period \_\_\_\_\_

Date \_\_\_\_\_

**Physics Motion Unit 1b Chapter 12**

Crittenden / Pettee

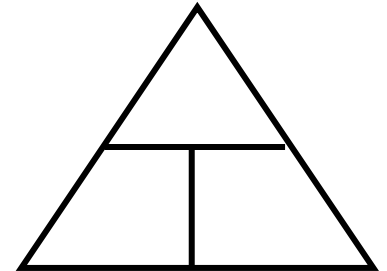
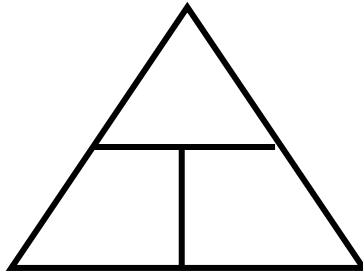
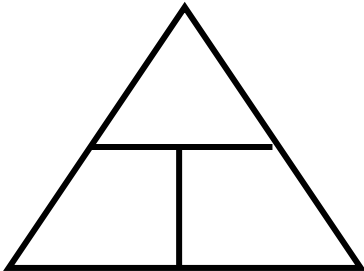
**Sample Force, Weight and Momentum Word Problems**

Complete the three magic triangles below including mathematical operations and units.

**$F = m \cdot a$**

**$W = m \cdot g$**

**$P = m \cdot v$**



1. With what force will a car hit a tree if the car has a mass of 3,000 kg and it is accelerating at a rate of  $2 \text{ m/s}^2$  ?

E:

S:

A:

2. A 10 kg bowling ball would require what force to accelerate it down an alleyway at a rate of  $3 \text{ m/s}^2$  ?

E:

S:

A:

3. What is the mass of a falling rock if it hits the ground with a weight of 147 N ?

E:

S:

A:

4. What is the acceleration of a softball if it has a mass of 0.50 kg and it hits the catcher's glove with a force of 25 N?

E:

S:

A:

5. What is the weight of a 15,000 kg truck?

E:

S:

A:

6. What is the momentum of a 0.046 kg golf ball moving at a velocity of 60.0 m/s?

E:

S:

A:

7. What is the momentum of a 9.5 kg bowling ball moving at a velocity of 5 m/s?

E:

S:

A:

8. What is the mass of a dodge ball moving at a velocity of 45.0 m/s with a momentum of 10 kg•m/s?

E:

S:

A: