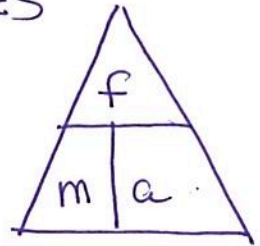


Name: _____

Date: 11/1/18

Science 7

Motion **NOTES**



Aim: I can analyze action and reaction forces.

Do Now: Solve for the missing value in the Newton's 2nd Law word problems.

1. What is the mass of an object that is experiencing a net force of 200 N and an acceleration of 500 m/s²?

Formula	$m = \frac{F}{a}$
Substitution	$m = \frac{200\text{ N}}{500\text{ m/s}^2}$
Final Answer with Units	$m = 0.4\text{ Kg}$

2. A 5 kg mass is accelerated across a smooth surface a 54 m/s². What force caused this acceleration?

Formula	$f = ma$
Substitution	$f = ma \quad f = 5\text{ Kg} \cdot 54\text{ m/s}^2$
Final Answer with Units	$f = 270\text{ N}$

Notes:

Newton's Third Law of Motion

- To every action, there is an equal and opposite reaction.
- When one object exerts a force on a second object, the second one exerts a force equal in size and opposite in direction.
- Describes action- reaction pairs.
- Forces always act in pairs.
- Forces are equal and opposite but act on different objects so they are not balanced and can cause a change in motion.