

Name: _____

Period: _____

Chapter 3 and 4 Review

1. F or $F_w =$ _____ 2. $m =$ _____ 3. $MA =$ _____ 4. $v =$ _____ 5. $D =$ _____ 6. $p =$ _____	8 30 m 13 kgm/s 2 m/s 152 kg 90 N	Write in the following formulas		
		Force (Newton's 2nd Law)	Weight	Momentum

1. Inertia 2. Mass 3. Gravity 4. Net force 5. Force	A. Ability of an object to resist change of motion; dependent on mass. B. Motion is always caused by this. C. The amount of matter in an object D. Force that attracts any two masses toward each other. E. Total of all of the forces on an object.	Conservation of Momentum (left and right)	Mechanical Advantage (using force)	Mechanical Advantage (using distances)
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Which of Newton's Three Laws Applies?

Number these from most (1) to least (5) inertia .					___ A heavier animal has to use more muscle to speed up. ___ A paddle-wheel boat pushes on the water and the water pushes back to move the boat. ___ Fighter pilots feel massive amounts of force when their planes turn quickly. ___ A rolling ball hits your leg hard to stop. ___ You push on the wall and you don't move.
A cat	A horse	A person	A mouse	A whale	
Number these from most (1) to least (5) momentum .					
Fast car	Fast truck	Fast plane	Fast hammer	A mountain	

35 N is pulling to the left and friction opposes with 15 N. Find the net force (remember to show direction).

If 40 N is pushing to the right and friction is 10 N, find the acceleration and direction of a 6 kg object.

A 35 kg bike accelerates at 5 m/s^2 . With what force was the person pedaling?

If a person is pushing a cart with a force of 9 Newtons and it accelerates at 0.5 m/s^2 , what is the mass of the cart?

Using $g = 10 \text{ m/s}^2$, find the weight of a 3 kg mass.

What is the mass of a 45 N object?

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| 1. Weight | A. When all forces on an object are balanced. |
| 2. Equilibrium | B. The force of gravity on an object. |
| 3. Mass | C. The acceleration of gravity. |
| 4. Heat | D. The a product of friction. |
| 5. g | E. The measure of the matter in an object. |

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| 1. Rolling friction | A. Resistance of a fluid on an object. |
| 2. Air friction | B. Resistance of air pushing against an object. |
| 3. Viscous friction | C. Resistance of two objects pushing against each other. |
| 4. Sliding friction | D. Any force that resists motion. |
| 5. Friction | E. Resistance of a wheel. |

Name the six simple machines:

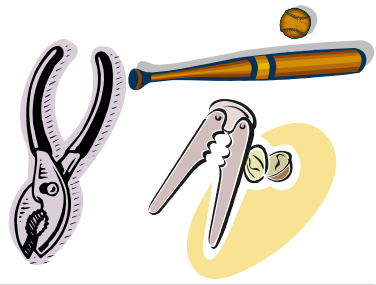
If gravity and air friction on a parachutist are equal, are they at equilibrium? Are they speeding up or not?

Identify these levers as first, second, or third class:

Pliers: _____

Bat. _____

Nutcracker. _____



A 5 kg ball is thrown 11 m/s. Find momentum.

A car going 30 m/s has 150 kgm/s of momentum. Find the car's mass.

A 30 kg girl throws a 2 kg ball to the left. The girl ends up going 3 m/s to the right. Find the ball's velocity.

Using a pulley you use 4 N to pull up a 24 N crate. Find the MA of the pulley AND how many support ropes does it have?

You use a 25 m incline plane to raise a cart up 5 m. Find the MA of the ramp.

Your pulley system has 4 support ropes. You can pull down with 7 N of force. How much can you lift?

A lever with a MA of 6 lifts a crate up 3 cm. How far do you have to pull down the lever?

Using a lever you pull down 6 m to lift a rock up 2 m. If you pull down with 8 N, how much does the rock weigh?