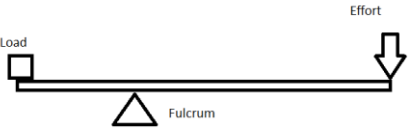
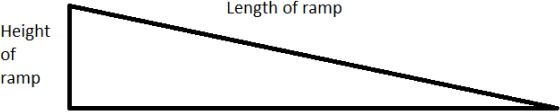
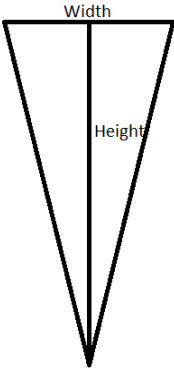
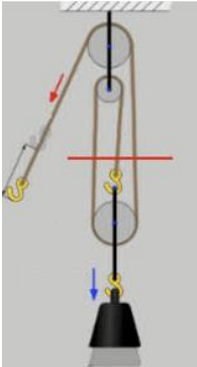


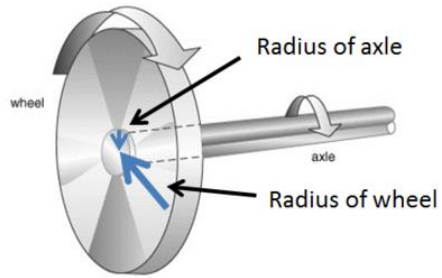
Grade 8 Science – Mechanical Advantage of Simple Machines – 2

Name: _____

We have already calculated Mechanical Advantage of Levers but there are 6 other simple machines. Each has the ability to make work easier using mechanical advantage. Your job is to find out through any means, how to calculate mechanical advantage for each of the rest of the machines.

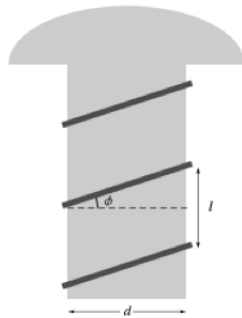
LEVER  The diagram shows a horizontal beam balanced on a triangular fulcrum. A small square labeled 'Load' is on the left end, and a downward arrow labeled 'Effort' is on the right end.	
Inclined Plane  The diagram shows a right-angled triangle representing a ramp. The vertical side is labeled 'Height of ramp' and the hypotenuse is labeled 'Length of ramp'.	
Wedge  The diagram shows an inverted triangle representing a wedge. The top horizontal edge is labeled 'Width' and the vertical distance from the top to the point is labeled 'Height'.	
Pully  The diagram shows a complex pulley system with three wheels. A rope is attached to a fixed point, passes under the top wheel, over the middle wheel, under the bottom wheel, and finally over the top wheel again. A red arrow indicates the direction of effort, and a blue arrow indicates the direction of load.	

Wheel and Axle

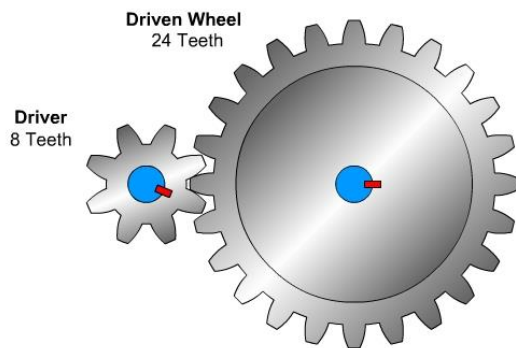


Screw

$MA = \frac{\pi d}{l}$	
MA	mechanical advantage
d	diameter of screw
l	lead of screw thread



Gears



HINT: There are at least two ways for each machine type. One using the measured properties (distance/length/counting) and the other using force.