Simple Machines

Matching

Column I	Column II
_____ 1. bar that is free to pivot about a fixed point	a. wheel and axle
_____ 2. an inclined plane with one or two sloping slides	b. inclined plane
_____ 3. grooved wheel with a rope running along the groove	c. gear
_____ 4. two wheels of different sizes that rotate together	d. lever
_____ 5. sloping surface used to raise objects	e. wedge
_____ 6. two wheels of different sizes with interlocking teeth along their circumferences	f. pulley
_____ 7. inclined plane wrapped in a spiral around a cylindrical post	g. screw

Drag and drop to classify each as a type of Lever or Inclinded Plane

wheel and axle inclined plane gear lever

wedge pulley screw

8. Levers	9. Inclined planes

Directions: *Calculate the ideal mechanical advantage for each of the following.*

10. A mover uses a ramp to push a stereo into the moving van. The ramp is 3 meters long and 1.5 meters high. What is the ideal mechanical advantage of this ramp?

What is the length of the slope_____ IMA= length of slope ÷ height of ramp.

What is the height of the slope_____ IMA: _____ ÷ _____ = _____

11. A painter uses a fixed pulley to raise a 1-kg can of paint a distance of 10 m.

Look in your notes the IMA of a fixed pully is always _____

12. A screwdriver with a 1-cm shaft and a 4-cm handle is used to tighten a screw.

A screwdrive is a type of _____.

The IMA wheel and axle is the radius of the wheel ÷ the radius of the axle.

What is the radius of the wheel _____. IMA: _____ ÷ _____ = _____

What is the radius of the axle _____.