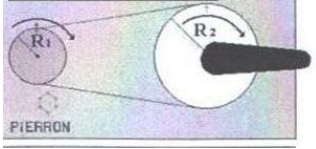
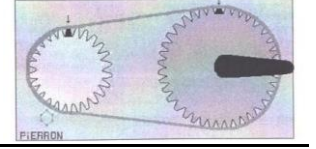
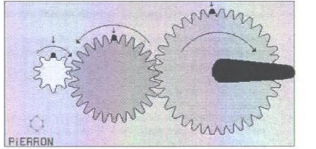
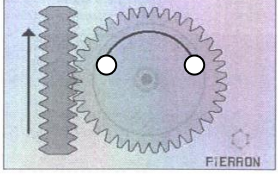
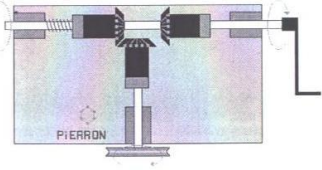



Name _____

PART 1 Station Number	Diagram	Questions	Answers
1		<ol style="list-style-type: none"> 1. Turn the handle and find out how many turns the small pulley makes for every complete turn made by the larger pulley. 2. How big is the diameter of the large pulley compared to the smaller one? 	
2		<ol style="list-style-type: none"> 1. What is the direction of the smaller gear if the larger one is turned counterclockwise? 2. Would the direction of the smaller gear change if the gears were connected directly to each other? 3. What name is given to this gear system? 	
3		<ol style="list-style-type: none"> 1. Find the velocity ratio of this gear train. 2. Find the mechanical advantage for the middle gear if the small one is the input. 3. How is the rotational direction of the small gear related to the largest gear? 	

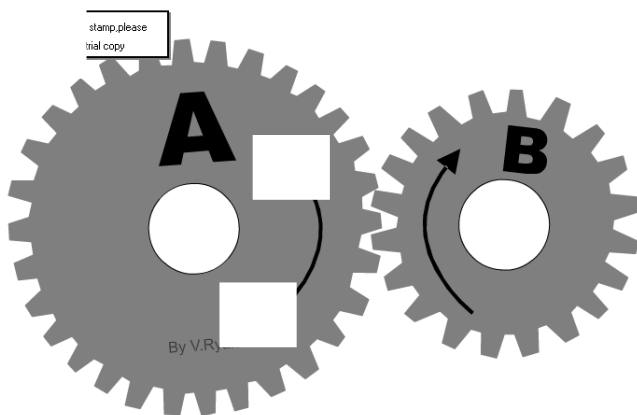
Name _____

4		<ol style="list-style-type: none">1. What name is given to this system?2. If the part on the left hand side is moving up, in which direction is the circular part moving?3. If you wanted this mechanism to punch hole where would you place the sharp component?	
5		<ol style="list-style-type: none">1. Draw the system in the blank square to the left, and label all the parts.2. Which part is the link?3. Why is the link needed in this case?	
6		<ol style="list-style-type: none">1. What would you have to add to this system so that it could lift a weight?2. Circle the part that turns in the same direction as the handle.3. Circle the parts that would need lubrication.	

Name _____

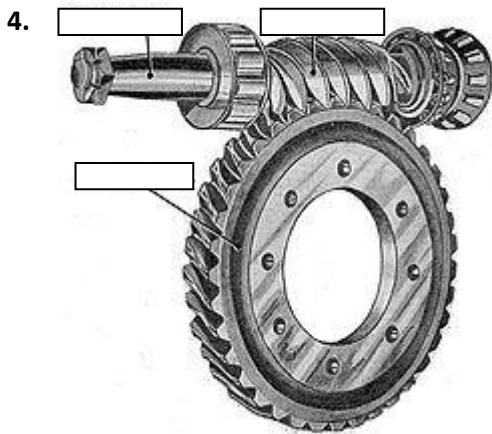
7		<ol style="list-style-type: none">1. Is the link direct?2. Is the link complete?3. Is it removable?	
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PART 2 Done Individually



Name _____

1. If B is the input, what is the velocity ratio? Show work.
2. If A's speed is 22 turns per minute, what is the speed of gear B? Show work and units.
3. If a third gear equal in size to gear B is connected to gear A, what will be the velocity ratio?



- a) Label all the parts of this system.
 - b) Which part would the motor be attached to? _____
 - c) Which part moves the fastest? _____
 - d) Which part has the most turning force? _____
5. A) Where's the cam or cams in the following diagram. Circle them.
B) What important linking part is needed for the follower to work?

C) What is the purpose of this machine?

Name _____

The 'main spring' returns the entire mechanism to its original position, ready for the next piece of paper / card.

