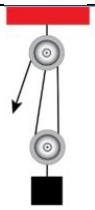
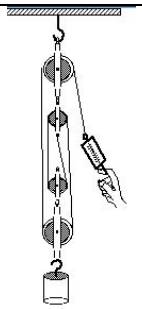
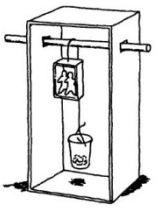
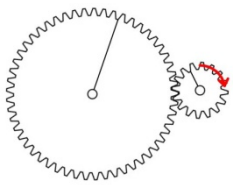
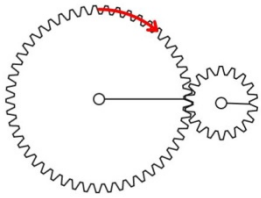
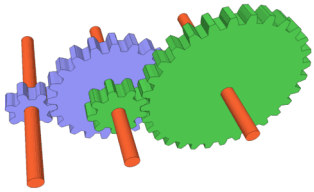
Test Solutions

Name of System	Sketch	Describe Advantages/Disadvantages
Simple Pulley		• Reverses direction of acting force.
Two wheel pulley		• Reduces force needed to pull up an object (by half). • The object rises at only half the speed.
Four wheel pulley		• Further reduction of force needed to pull up an object. • Object rises even more slowly as for the two wheel pulley.
Elevator with counterweight		• Balances the weight of the elevator with a counterweight, so less force is needed to raise or lower the elevator • Doesn't make it necessary to pull in a LONG piece of cable or string.

Small gear driving a large gear		• The large gear turns slowly but with large torque (force)
Large gear driving a small gear		• The small gear turns fast but with low torque (force)
Compound gears		• If driven by small gear, the large gear turns very slowly but with much greater strength • If driven by the large gear, the small gear turns VERY fast but is very easy to stop.