

## Mechanical Advantage Calculations

Name: \_\_\_\_\_

1. What is the ideal mechanical advantage of a 3.5-cm screw of which the threads measure 9.5 cm in length?
2. Calculate the actual mechanical advantage of a pulley attached to a 435-N load, but requiring only 75 N to operate.
3. What is the actual mechanical advantage of a lever created from a plank of wood and a paint can if a 1540-N boulder is lifted with only 225 N of force?
4. Calculate the mechanical advantage of a ramp that is 4 m long and 1.5 m high.
5. A student uses a pencil as a lever to launch a piece of trash into the trashcan. If the student positions a marker as the fulcrum just 3 cm from where she applies effort, and 7 cm from the piece of trash, what is the mechanical advantage the lever gives?
6. A young man works at the local gym. To block the intense afternoon sun, he uses a pulley to lower a 490-N screen over the windows. If he uses only 65 N of force to operate the pulley, what is the mechanical advantage of the pulley?

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