

Physics Homework

Name _____

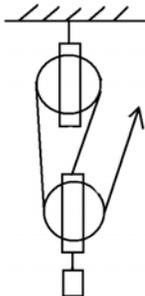
Date _____ Period _____

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1. In splitting a tree with a wedge whose taper is 1.0cm each 6cm of length, what splitting force is applied to a log by a 400.0N hammer blow upon the wedge?

2. One kind of car jack is essentially a lever with a ratchet to hold the lifted object in place while the lever is returned for a new thrust. If the lever is pivoted 2.0cm from the ratchet and the handle is 35.0cm long, what is the IMA? If the actual efficiency is 60.0%, what weight could be lifted by a 500.0N force applied to the handle?

3. A pulley system like the following is used to lift a 100kg box. What is the minimum force that could lift the box? If the efficiency of the machine is 75%. What force is needed to lift the box?



4. Design a pulley system that can lift 80.0N with a force of 18N assuming an efficiency of near 75%.

5. This plane is then used to raise a 2000kg stone block. The friction produces an efficiency of 45% for this block. What force must be used to push the block up the plane?

