

Simple Machine/Work

Chpt 10 rev 3a

Physics

1. A 97.0 kg sled is pulled a distance of 147 m using 8,670 J of work. A force of 78.9 N is applied to a rope. A) What angle is the rope at?...b) How much Power is consumed if it took 18.0 s?

2. A lever has an efficiency of 90.0%. a) What work is needed (W_i) to lift a 34.5 kg mass 0.567 m vertically? b) If 95 N of force are applied to the lever, how far is the effort force exerted? C) What is the AMA and IMA?

3. A ramp is 9.90 m long and 3.40 m high.. a) What force is needed to slide a 45 kg box to the top if friction is ignored?...b) What is the IMA of the ramp?...c) What is the AMA if the efficiency is 76.0%?...d) What would the new F_e be with the efficiency of 76.0%?