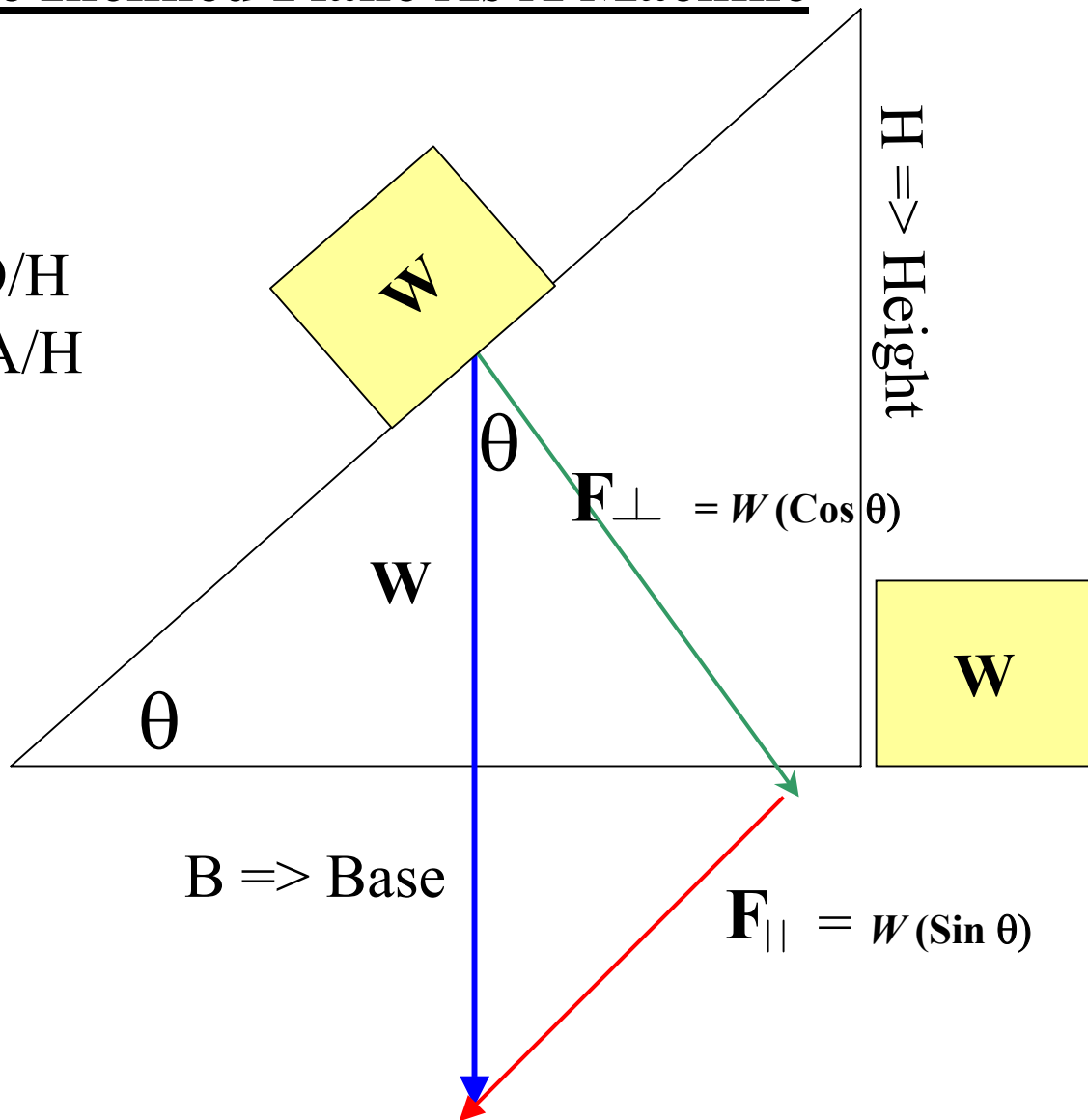


# The Inclined Plane As A Machine

$$\sin \theta = O/H$$
$$\cos \theta = A/H$$



*Utilize additional sheets of paper as necessary for recording of measurements.*

*Locate & assemble a weight sled with three weights. Weigh it & record results.*

*Drag it along the surface of a pine ramp (in horizontal position) & calculate  $\mu$ . Record.*

*Set the ramp up at a  $30^\circ$  base angle. Measure & record the ramp length (hypotenuse) & the ramp height.*

*Record the force necessary to pull the weight sled up the inclined plane at a constant speed. Subtract from this force the frictional force based on  $\mu$  calculated above. Show all calculations.*

*Prove that the Work done pulling the sled up the ramp is the same as lifting it straight up to the top at the far (tall) end of the ramp.*

*If the frictional force were not discounted what would the efficiency of the ramp be?*