

21.6: General Questions

1. If you weigh twice as much as your little sister, where should you sit with respect to the pivot point in order to balance the seesaw? Should you sit closer to the pivot or farther from the pivot? How much closer/farther should you sit?

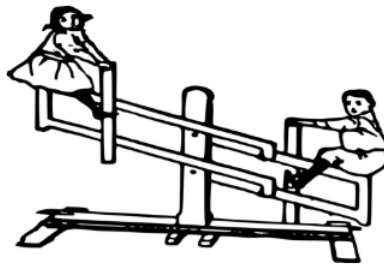


Figure 21.6.1: Kids on a Seesaw by j4p4n available in Public Domain

2. A person pulls on the long end of a crowbar with 150 lbs (667 Newtons) of force, applying the force perpendicular to the lever arm. The long end of the crowbar measures 90 centimeters from the pivot to where the force is applied.

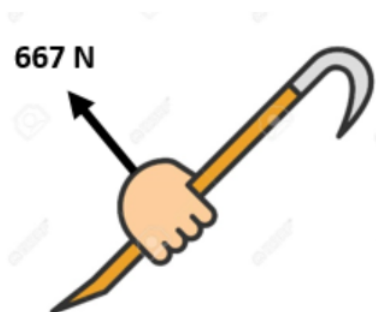


Figure 21.6.2: Pry Bar

- a. Calculate the amount of torque on the long side of the crowbar.
- b. What is the torque on the short side of the crowbar?
- c. How much force is applied to the crate?
- d. Calculate the mechanical advantage gained by using the crowbar.

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