*Levers Worksheet*

*Hint: you should include drawings to help solve these problems. It will make a big difference !!!*

1. **A lever is 10 m long. The fulcrum is located 4 meters from the end on which a 3000 N weight rests. How much effort (FE) must be applied to the other end of the lever to raise the weight?**
2. **A weight of 6000N rests on one end of a 5 m lever, the fulcrum is located 2m from the eight. How much effort must be applied to the opposite end to raise the weight?**
3. **If the effort arm ( distance) of the lever from the above problem is lengthened by 2m, How much effort will then have to be applied?**
4. **An effort of 10N is applied to the end of a 3 m lever, will this effort be adequate to lift a 30N weight on the other end of the lever? When the fulcrum is placed 1m from the weight? (Solve as if you do not know the effort force) If not, How much effort is needed?**
5. **A wheelbarrow carrying a load of cement weighing 500N has a center of gravity in the load 0.5 m from the wheel. The handle is 2m long (from the wheel) How much effort will be required to lift the load?**
6. **You want to move a rolling load weighing 600N up an inclined plane which is 90Cm long and 30cm high at one end. How much effort will be needed to pull the load up the inclined plane?**
7. **If the plane in the above problem is reduced to 60 cm, how much more effort will be required to move the load?**
8. **A wheelbarrow carrying a load of cement weighing 1500N has a center of gravity in the load 0.7 m from the wheel. The handle is 2.5m long (from the wheel) How much effort will be required to lift the load?**
9. **You want to move a box weighing 400N up an inclined plane which is 50 cm long and 20 cm high at one end. How much effort will be needed to pull the weight up the inclined plane?**