

## 6.2 Review Questions

1. A 300 N box is to be lifted 3 m. If you use a 6 m long ramp, how much force must you apply? What is the Mechanical Advantage of using the ramp?
2. To lift a 10,000 N car up 2 m, a ramp was used. The Mechanical advantage of the ramp was 4. What force was needed to push the car up the ramp and what is the ramp's length?
3. How long does a ramp have to be if you exert 50N of force to bring a 425N cart up a height of 3m?
4. What is it about a wedge that makes it a simple machine?
5. How much does a refrigerator weigh if you have to apply 500N of force along a 4m ramp to get it a height of 0.75m?
6. A ramp is to lift a 15,000 N car up 3 meters, It's mechanical advantage is 6. What force will be needed to push the car up the ramp and how long is the ramp?
7. The mechanical advantage of a ramp is 3.25. How long is the ramp if it gets a 100 Kg block up a height of 2.75 m? What force must the block be pushed up the ramp?
8. A ramp is being used to lift a 200 Kg object up a height of 0.75 m. If the ramp is 3.50 m long, with what force must the object be pushed?
9. A kid is riding his bike up a hill that is 25.0 m high. The road he is on is 120 m long. If he and his bike together weigh 630 N, with what force must he push to get to the top of the hill?