

## POWER – HW WORKSHEET #2

1. A small snowmobile is rated at 12.0 hp (note that 1 hp = 746 W. Convert!). It takes a force of 300.0 N to move a sled load of wood along a pond.
  - a. How long will it take to tow the wood across the pond if the distance is measured to be 846 m?
  - b. A more powerful snowmobile could also be used to tow sleds of wood that are identical to the one in the previous question.
  - c. Use your understanding of the concept *power* to explain how the situation would be different if a more powerful machine was used.
  
2. A winch is rated at 720 W. It is used to pull a quad runner out of the bog, a distance of 2.30 m. The average force applied by the winch is 1520 N. How long will the job take?
  
  
  
  
  
  
  
  
  
  
3. Jack and Jill went up the hill (The hill was 20.0 m high). Each carrying a sack of flour (flour: 20.0 kg, Jack: 70. kg) Jack made the trip in 40 sec.
  - a. What was old Jacky's power?
  - b. Jill goes to aerobics class (Jill: 60.0 kg) and works out as well in the gym she did the trip in 10 seconds less (She also had a sack of flour) compare her power to Jack's.

