

Work and Power Practice

- d. What force do you do work against when lifting the box?
- e. Why use a ramp if it requires more work?
6. Jack (30 kg) and Jill (20 kg) went up the hill to see who could generate the most power when doing work against gravity. They ran up a hill with a vertical height of 12 m. Jack reached the top in 6.8 seconds and Jill reached the top in 5.0 seconds.
- a. Who did more work?
- b. Who was more powerful?
7. Gary holds a 4 N book stationary 2 m above the ground. How much work does Gary do on the book?

Answers:

1. a) 1425 J b) friction 2.a) gravity b) 2400 J 3) 4 N
4. a) 1,603,000 J b) 53,400 W
5. a) 4500 J b) friction & gravity c) 3000 J d) only gravity e) still less force
6. a) Jack = 3600 J & Jill = 2400 J b) Jack = 530 W & Jill = 480 W
7) none. (its not moving, so no displacement, so no work.)