

Name:

Date:

Period:

Energy #1

1. A block is pushed with force of 100 N over a displacement of 2.3 m.
 - (a) What is the work done on the block?

 - (b) If it took 0.9 s to do this, what is the power output on the block?

2. It takes 50 000 J of work to push a car 1371 m. What force is required?

3. A 100 W light bulb is left on for 33 s. How much work does it do?

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4. A 3.75-kg watermelon is lifted 2.4 m into the air:

(a) Calculate the force that you are doing work against.

(b) How much work is needed to lift the watermelon that high (think about your answer to a to help with this answer)?

(c) If it took you 5.1 s to lift it 2.4 m, what is your power?

5. A cable lifts a 2600-kg elevator to a height of 300 m in a time of 8 seconds. What power does the motor produce in accomplishing this task? (*Hint:* You will need to find the work done first. Use problem 4 to help you as they are similar problems)