

Unit 4I Power *Practice Problems*

Name:

Date:

Work each of the following problems. SHOW ALL WORK.

1. A Chevy Camaro engine exerts 650 hp to move the car. How many watts of power does the engine exert?

2. If 400 J of work is done on an object in 8 seconds, how much power does the object experience?

3. If a riding lawnmower engine exerts 19 hp in one minute to move the mower, how much work is done?

4. If a 75 N force is applied to a box, moving it 4 m in 6 seconds, how much power does the force exert?



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5. If a constant force of 20 N is applied to a cart, how much power does the force exert on the cart when it reaches a speed of 4 m/s?

6. If a 2 kg object is falling at 3 m/s, at what rate is gravity working on the object?

7. A 1,200 kg car accelerates from rest to 27 m/s in 6 seconds. How much power does the engine exert on the car during this acceleration?

8. A 400 hp engine in a 1,600 kg car applies maximum force for 2 seconds to accelerate the car onto the interstate. If the car moves at 8 m/s before accelerating, what is its speed after the 2 seconds of acceleration?