

Name:

Date:

Period:

Power

1. A compact fluorescent 60-watt replacement bulb only requires 13 W of power. Over the course of an hour, how many Joules of energy are saved?

2. Two cars travel 12 km. They both have the same mass and the same aerodynamic properties. It takes Car A a half hour to go this distance. It takes car B 4 mins.
 - (a) Which car exerted more work?

 - (b) Which car had a greater output of power?

 - (c) Assuming that Car B's average speed was 50 m/s and it had an engine capable of providing 5,000 N of force, what was its power output in hp? (Hint: $1 \text{ hp} \equiv 746 \text{ W}$)

3. You get an electric bill for 50 kWh (killowatt-hours). How much electrical work was done by your house in Joules.