REVIEW

9 SECTION 9.1

Work, Power, and Machines

1. **Define** each of the following terms, and write the equation for each.

   a. work

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   _____

   b. power

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   _____

   c. mechanical advantage

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2. **Explain** the relationship between work and power.

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3. **Explain** how machines make work easier if they still require that the same amount of work be done.

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4. **Calculate** the amount of work done when a grocery store stocker uses 120 N of force to lift a sack of flour 1.5 m onto a shelf.

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5. **Calculate** the average power in kilowatts required to pull a car up a ramp if the amount of work is 250 kJ over a period of 45 s.

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6. **Calculate** the mechanical advantage of a group of pulleys used to raise an engine from a car. The engine is raised 1.2 m with the pulleys when 4.8 m of rope is pulled through the pulleys.

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