

Name: \_\_\_\_\_

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**Chapter 7.3 Homework**  
**Conceptual Physics**

Parent Signature: \_\_\_\_\_

**Reviewing Concepts**

15. Why can't the output work for a machine be greater than the input work? Explain your answer. (1)

16. Can a simple machine's efficiency ever be greater than 100%? Explain your answer. (1)

17. List two examples of ways to increase efficiency in a machine. (1)

**Solving Problems**

19. A 60-W light bulb uses 60 J of electrical energy every second. However, only 6-J of electrical energy is converted into light energy each second. (1)

a. What is the efficiency of the light bulb? Give your answer as a percentage.

b. What do you think happens to the "lost" energy?

20. The work output is 300 J for a machine that is 50% efficient. What is the work input? (1)

21. A machine is 75% efficient. If 200 J of work are put into the machine, how much work output does it produce? (1)