To convert, watts ÷ Volts = amps. Let's assume you have a 1,500-watt 120 VAC electric heater. 1500W ÷ 120v = 12.5 Amps

To apply the 80% rule, multiply the amps by 1.25.

12.5A x 1.25% = 15.6 amps. A 15-amp breaker does not meet the requirement for this space heater. The proper breaker would be a 20-amp breaker, along with 12-gauge wire, and, for safety's sake, a 20-amp receptacle.

Exercise 5 – Calculating Amps

Assume you want to run a wire to an air conditioner. The tag only says 240V, 3500 watts. You measure the voltage from the breaker panel at the outdoor unit and read 230V on your meter. What size breaker could you use?

_____ Amps.