

ELECTRICAL 102 WORKSHEET

Scenario #1

you know...

- EACH OF THE POLES BRING 120 VAC TO THE HEATER CIRCUIT FOR A TOTAL OF 240 VOLTS
- THE MAXIMUM SAFE LOAD FOR A 20 AMP BREAKER IS 80% OF ITS LISTED CAPACITY, OR 16 AMPS.

WATTS

LAW

WATTS

=

Volts

x

Amps

1 my baseboard heater isn't working.. can I get a bigger one?

2 can we safely install a bigger heater ?

3 what is the total wattage the heater circuit can handle?

4 volts amps

x

=

watts

5 watts

2000 existing heater wattage

remaining wattage

can we safely install a 1500 watt heater

YES OR NO

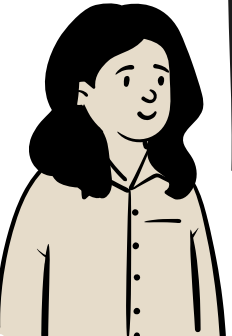
(CIRCLE YOUR ANSWER)

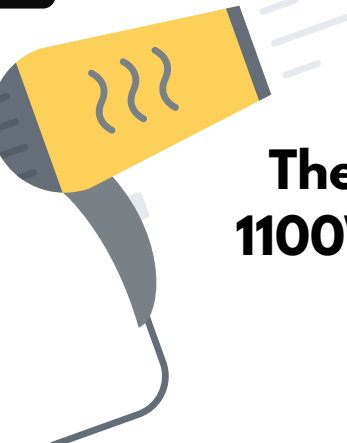



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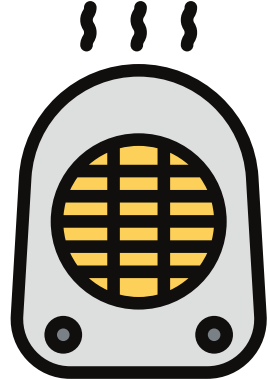
WATTS = Volts x Amps
AMPS = Watts ÷ Volts


Scenario #2

1  ...my hair dryer trips the circuit breaker in my bathroom every time I use it...

2  The Hair Dryer is an 1100W Energy Efficient Model


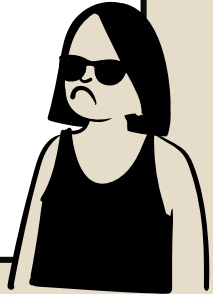
3  The resident is also running 3 vanity lights with 4 - 60W bulbs

4 ...and a heat lamp with a 250W bulb 

5 **WHAT IS THE TOTAL WATTAGE BEING USED** 

6 $\boxed{} \times 4 \times 3 = \boxed{} \text{ watts}$
 $+ \boxed{} + \boxed{} = \boxed{} \text{ watts}$

7 let's find the AMPS
 $\boxed{} \div \boxed{} = \boxed{} \text{ amps}$
MAX Safe Load is 12 AMPS

8 The Circuit Breaker is... 
a. broken
b. overloaded
c. totally fine 

(START YOUR VIDEO ONCE COMPLETE)



(START YOUR VIDEO ONCE COMPLETE)