Name _____

Part E: The Power Formula

$$P = IV$$

	Quantity	SI Unit	What it means
P	Power	Watts (W)	How fast energy changes form.
I	Current	Amps (A)	Electrons per second.
V	Voltage	Volts (V)	Energy per electron.

E.1 I have a current of 5 Amps and I have a 12 Volt battery. What is my power?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

E.2 I have a current of 3 Amps and a 30 Volt battery. What is my power?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

E.3 I have a 100 Watt light bulb hooked up to an outlet, which means it has 120 Volts. What is its current?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

Name _____

E.4 My vacuum cleaner uses 1100 Watts, and I hook it up to an outlet, which means it has 120 Volts. What is its current?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

E.5 I have a 300-Watt device, and I know there is 2 Amps of current going through it. How much voltage does it have?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

E.6 I hook up a 4-volt battery, and it produces a current of 0.3 Amps through my light bulb. How much power does the light bulb have?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

E.7 I hook up *two* 4-volt batteries, and it produces a current of 0.6 Amps through my light bulb. How much power does my light bulb have?

Looking For	Formula	
Already Know		
Answer as a complete sentence *with unit*:		

Name _____

Answers
E.1 60 Watts
E.2 90 Watts
E.3 0.833 Amps
E.4 9.17 Amps
E.5 150 Volts
E.6 1.2 Watts
E.7 4.8 Watts [remember there are *two* batteries]