D: Solve Ohm's Law and the Power Formula

Level 2

Prerequisite: Solve Ohm's Law Points To: Solve Complete Circuits

$$V = IR$$

$$P = IV$$

Objectives of this Quiz:

- Solve the formulas above algebraically in two steps (using both equations)
- Of the four variables: voltage, current, resistance, and power, you will be given two and you need to find the other two.
- You need to know the Si units for voltage, current, resistance, and power.
- The equations will be on the quiz, but you should still memorize them.

Part E: The Power Formula

$$P = IV$$

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

v voite	agc	VOILS (V)					
E.1 I have a	current of 5	5 Amns an	d I ha	ove a 12	Volt hat	terv W	/hat is	my nower?
Looking For			Form		, oir our		1144 15	In power.
Already Kno)W							.i
A navyar ag a	aammlata a	antanaa	;+la a	;4.				
Answer as a	complete s	entence w	un un	ιι.				
E.2 I have a	current of 3	3 Amps an	d a 30	0 Volt ba	attery. W	Vhat is 1	my pov	wer?
Looking For]	Form	ıla				
Already Kno)W							ı
Answer as a	complete s	entence w	ith un	it:				
Allswei as a	complete s	Cittorice w	iin un	ιι.				
E.3 I have a its current?	100 Watt li	ight bulb h	iooke	d up to a	n outlet	, which	means	s it has 120 Volts. What is
Looking For			Form	ıla				
Already Kno)W							i
Angwar ea a	aomnlata a	ontonoo :···	itla aus	; ₄ ,				
Answer as a	complete s	entence w	un un	ιι.				

Volts. What is its current Looking For	Formula		
LOOKING I OI	1 Ormana		
Already Know			
Ž			
Answer as a complete ser	ntence with unit:		
E.5 I have a 300-Watt de	vice, and I know there is 2 Am	ps of current going through it	. How
much voltage does it have		I	
Looking For	Formula		
A 1 1 IV			
Already Know			
Answer as a complete ser	ntence with unit:		
Answer as a complete ser	ntence with unit:		
Answer as a complete ser	ntence with unit:		
E.6 I hook up a 4-volt bat	ttery, and it produces a current	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the ligh	ttery, and it produces a current at bulb have?	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the ligh	ttery, and it produces a current	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the light Looking For	ttery, and it produces a current at bulb have?	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the light Looking For	ttery, and it produces a current at bulb have?	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the light Looking For	ttery, and it produces a current at bulb have?	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the light Looking For	ttery, and it produces a current at bulb have?	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the ligh Looking For Already Know	ttery, and it produces a current at bulb have? Formula	of 0.3 Amps through my ligh	t bulb. Hov
	ttery, and it produces a current at bulb have? Formula	of 0.3 Amps through my ligh	t bulb. Hov
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser	ttery, and it produces a current bulb have? Formula Intence with unit:		
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser E.7 I hook up <i>two</i> 4-volt	ttery, and it produces a current at bulb have? Formula Intence with unit:		
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser E.7 I hook up <i>two</i> 4-volt How much power does m	ttery, and it produces a current at bulb have? Formula Intence with unit: batteries, and it produces a current at bulb have?		
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser E.7 I hook up <i>two</i> 4-volt	ttery, and it produces a current at bulb have? Formula Intence with unit:		
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser E.7 I hook up two 4-volt How much power does many Looking For	ttery, and it produces a current at bulb have? Formula Intence with unit: batteries, and it produces a current at bulb have?		
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser E.7 I hook up <i>two</i> 4-volt How much power does m	ttery, and it produces a current at bulb have? Formula Intence with unit: batteries, and it produces a current at bulb have?		
E.6 I hook up a 4-volt bat much power does the light Looking For Already Know Answer as a complete ser E.7 I hook up two 4-volt How much power does much po	ttery, and it produces a current at bulb have? Formula Intence with unit: batteries, and it produces a current at bulb have?		

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]