Electricity Calculations - Worksheet

Name:						_ Date:	
For	mulas:	V = I x R	P = I x V	E = V x I	E = P x t		
Wa	tts = Joul	es per second					
1.		likes waffles for perated for 3.6h		much energy is	used by a waffle	maker that has a power rating of .7501 kV	
	using the maker.	e current cost of	felectricity in Sa	skatchewan (13	.267 cents per kW	/h) , how much did it cost to run the waffl	
2.		cost to run a 12 r kWh is 13.267		vave oven, if you	u make microwav	e popcorn in 5 minutes.	
3.	A 615 W	/ fridge runs 24	hours/day. Hov	v much energy v	vould it use in the	e month of December (31 days)	
	What wo	ould it cost to ru	n? (price per kW	/h is 13.267 cen	ts)		

4.	(tougher question) - If an air conditioner uses 2400 watts of power, and runs on a 220 V circuit, how much current flows through the air conditioner?
5.	At TV set uses a 12 A current and has a resistance of 10 Ω , what is the voltage of the circuit?
6.	Calculate the power of an electric toaster that uses 210,000J while toasting the bread of 140s.
7.	Calculate the amount of energy a car battery releases as it is operated a starter motor. The current following through the motor was 350A and the time the motor was operated was 8.2 seconds.
8.	An electric motor uses 32000J of energy to produce 26000J of useful energy. The rest is wasted as heat and sound. Calculate the efficiency of the energy going into the motor.

9.	A 45 W lightbulb is on for 90 minutes and will output 98,000 J of light energy. If the total energy the light used was 243,000 J, what is the efficiency of the light bulb.
10.	A new ipad pro will draw 12W of power while it charges for 4.5 hours. Calculate the power used and then how much it will cost each time you charge it.
11.	Tough one – plus conversions.
	The wall charger for an iPhone is 900mA. If you have it plugged into the wall for 2 hours, how much power have you consumed?