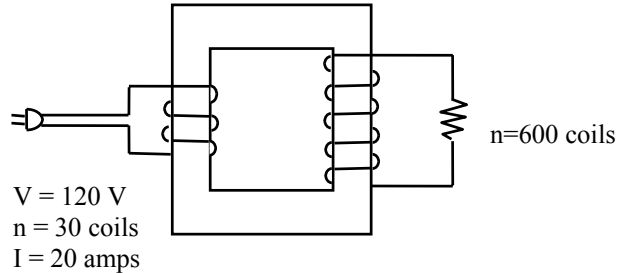$$\frac{V_1}{n_1} = \frac{V_2}{n_2} \qquad V = IR$$

$$n_1 I_1 = n_2 I_2 \qquad P = IV$$

Transformers Worksheet

Look at the following transformer. The source of electricity is on the left. Therefore, the primary coil is on the left, and the secondary is on the right.

n=600 coils

V = 120 V
n = 30 coils
I = 20 amps

1. Fill in the following chart for this transformer. Would this be a step-up or step-down (circle one)?

Step up or step down?	Primary	Secondary
Voltage		
Current		
# of Coils		
Power		

2. For the above transformer what is the output voltage if it is only 75% efficient?

3. A transformer has a primary coil with 200 turns, and a secondary coil with 2000 turns. The input voltage is 120 VAC, and runs at 1800 Watts. What is the output voltage?

Step up or step down?	Primary	Secondary
Voltage		
Current		
# of Coils		
Power		

4. A transformer has a primary coil with 100 coils and 35 amps, and the secondary has 150 turns. The power in the secondary is 1.4 kW

Step up or step down?	Primary	Secondary
Voltage		
Current		
# of Coils		
Power		

5. The next transformer has an input voltage of 220 VAC, and 30 amps. If the secondary has 5000 coils and 1.5 amps.

Step up or step down?	Primary	Secondary
Voltage		
Current		
# of Coils		
Power		

6. Electricity is coming out of a transformer with 40 VAC and 5 amps. It went into this transformers primal coil of 50 turns with 0.25 amps.

Step up or step down?	Primary	Secondary
Voltage		
Current		
# of Coils		
Power		

7.   180 VAC go into 300 coils. 270 volts come out. The power is 7.2 kW.

Step up or step down?	Primary	Secondary
Voltage		
Current		
# of Coils		
Power		