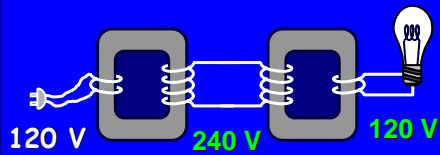


ConcepTest 29.12a Transformers I

What is the voltage across the lightbulb?

- 1) 30 V
- 2) 60 V
- 3) 120 V
- 4) 240 V
- 5) 480 V

The first transformer has a 2:1 ratio of turns, so the voltage doubles. But the second transformer has a 1:2 ratio, so the voltage is halved again. Therefore, the end result is the same as the original voltage.



ConcepTest 29.12b Transformers II

Given that the intermediate current is 1 A, what is the current through the lightbulb?

- 1) 1/4 A
- 2) 1/2 A
- 3) 1 A
- 4) 2 A
- 5) 5 A

Power in = Power out
 $240 \text{ V} \times 1 \text{ A} = 120 \text{ V} \times ???$
The unknown current is 2 A.

