ICP – Calculate the Average Value of i(t)

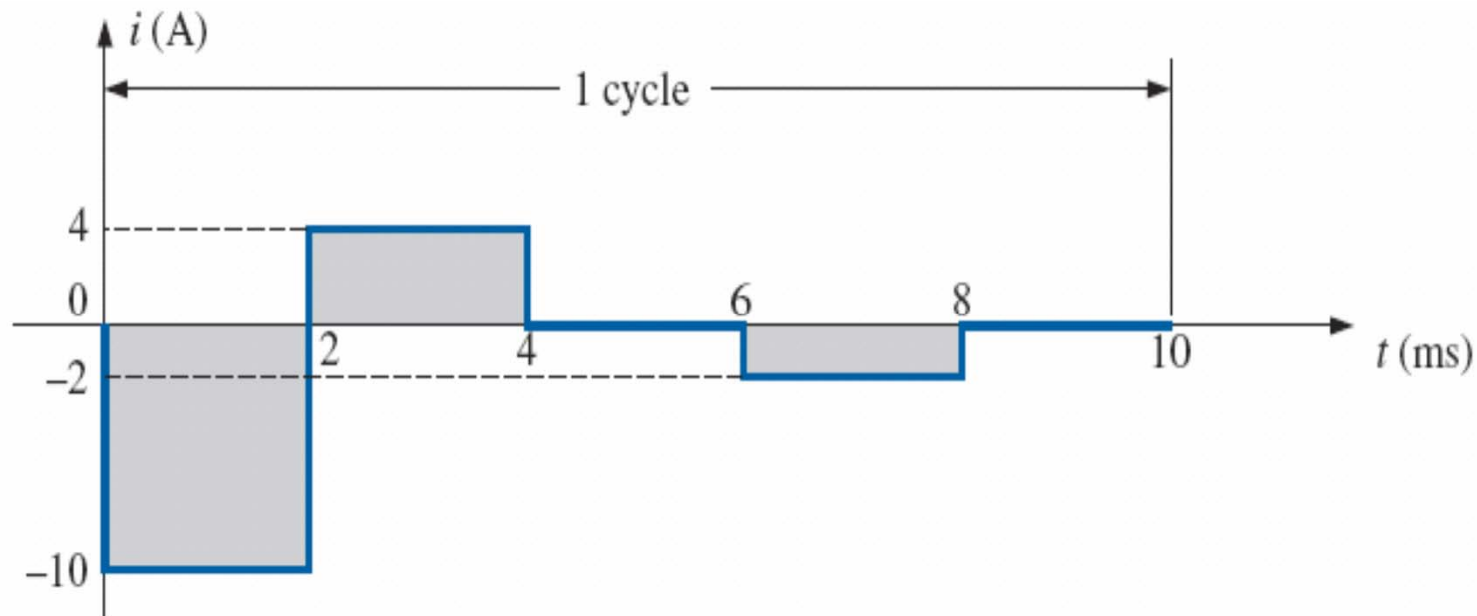

FIG. 13.47 *Example 13.15(b).*

$$\text{i(t)\_average} = \frac{(-10A)(2ms)+(4A)(2ms)+(-2A)(2ms)}{10ms}$$

i(t)_average = -1.6A (text error in V)
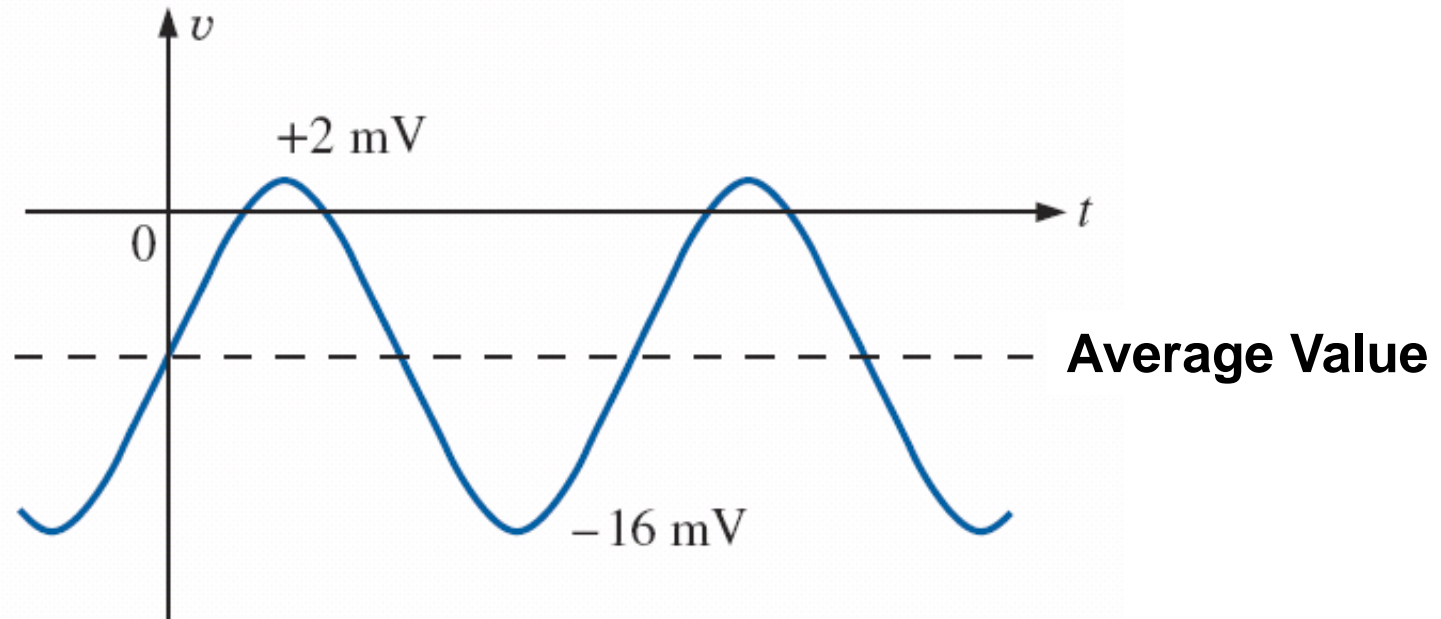
ICP – Calculate the Average Value of v(t)

+2 mV

0

Average Value

− 16 mV

FIG. 13.54 *Example 13.17.*

Vpp = 18mV, therefore Vp = 9mV

2mV – 9mV = -7mV

-16mV + 9mV = -7mV

Ave Value = -7mV

NP

ICP – Find Em and Im (The peak values of e and i)
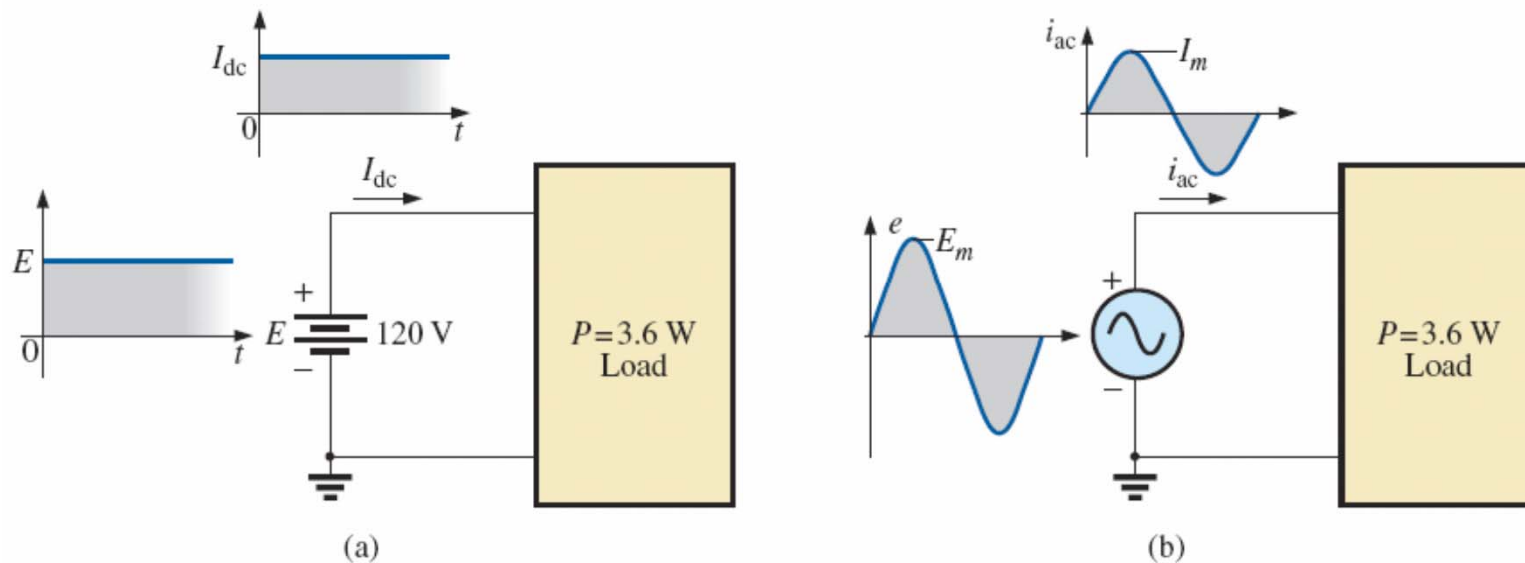
FIG. 13.61 *Example 13.21.*

Idc = P/V = 3.6W/120V
= 30mA

Im = SQRT(2)*Idc
= 42.43mA

Em = SQRT(2)*Edc
= 167.7V

NP

ICP – Find Vrms
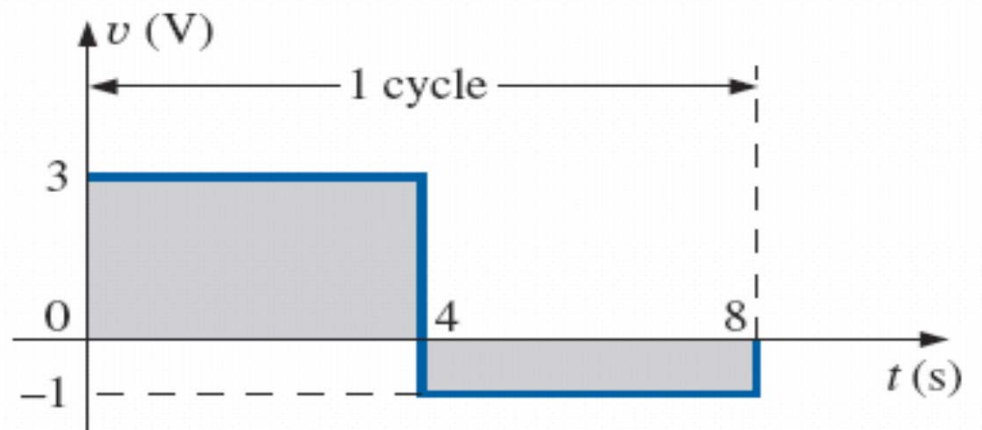
FIG. 13.62 *Example 13.22.*

$$V_{RMS} = \sqrt{\frac{AREA[v(t)]^2}{T}}$$

$$V_{RMS} = \sqrt{\frac{(9V^2)(4Sec) + (1V^2)(4Sec)}{8 SEC}}$$

$$= \sqrt{\frac{40 V^2 Sec}{8 SEC}}$$

$$\boxed{V_{RMS} = 2.24V}$$

NP