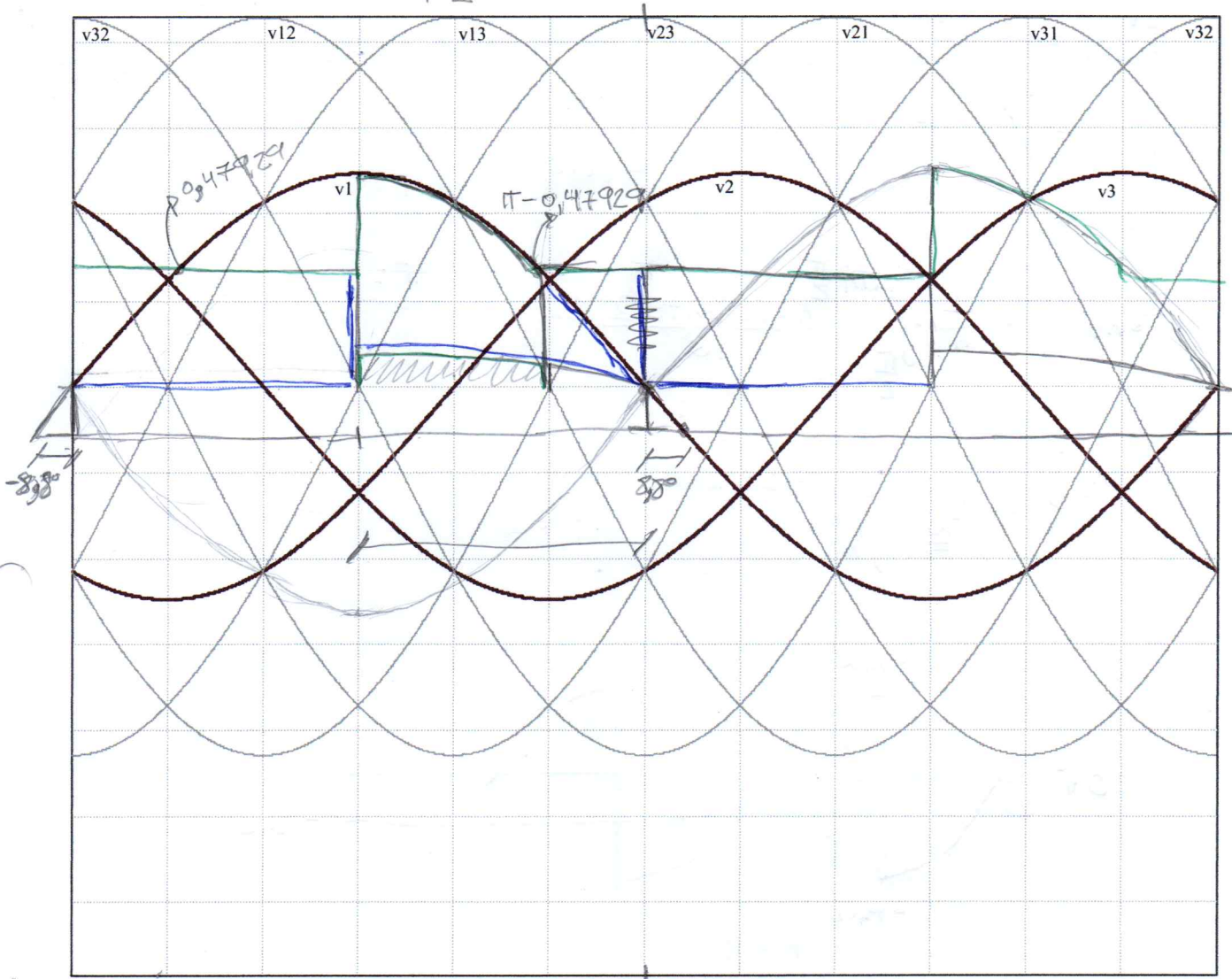


P2



i)  $R=10\Omega$  - circuito resistivo

$$A = \sqrt{2} \cdot 230 ; B = \frac{\sqrt{2} \cdot 230}{10}$$

$$V_{\text{méd}} = 2 \cdot \frac{1}{\pi} \cdot \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} A \cdot \sin \theta \, d\theta = 103,5 \text{ [V]} \quad \checkmark$$

$$I_{\text{méd}} = 2 \cdot \frac{1}{\pi} \int_{-\frac{\pi}{2}}^{\pi} B \cdot \sin \theta \, d\theta = 10,35 \text{ [A]} \quad \checkmark$$

$$P_0 = 2 \cdot \frac{1}{\pi} \int_{-\frac{\pi}{2}}^{\pi} A \sin(\theta) \times B \sin(\theta) \, d\theta = 2645 \text{ [W]} \quad \checkmark$$

ii)  $R=10\Omega$  ;  $E=150\text{V}$

$$K_{150\text{VOLT}} = 0,47929 \text{ rad.}$$

$$V_{\text{méd}} = \frac{1}{\pi} \cdot \int_0^{\frac{\pi}{2}} 150 \, d\theta + \frac{1}{\pi} \cdot \int_{\frac{\pi}{2}}^{\pi-0,47929} A \sin(\theta) \, d\theta + \frac{1}{\pi} \cdot \int_{\pi-0,47929}^{\pi} 150 \, d\theta ; \pi = 3,14159$$

$$= 189,7448 \quad \checkmark$$

$$I_{\text{méd}} = \frac{1}{\pi} \int_{\frac{\pi}{2}}^{\pi-0,47929} \frac{V-E}{10} \, d\theta = 3,97545 \text{ [A]} ; V = A \cdot \sin(\theta) \quad \checkmark$$

$$P = \frac{1}{\pi} \int_{\frac{\pi}{2}}^{\pi-0,47929} A \cdot \sin \theta \times \frac{V-E}{10} \, d\theta = 1148,905 \quad \checkmark$$