

No. :

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Nama : Nabilla Rifdah A.

Nim : 20507334034

Kelas : GK 1

1. A Voltmeter is accurate 98% of its full scale reading

a. If the voltmeter reads 200 V on 500 V range, what is the absolute error?

$$Y_u = 200 \text{ V}$$

$$X_u = 98 \% \times 200 \text{ V}$$

$$X_u = 196 \text{ V}$$

MAKA absolute error,

$$e = 200 \text{ V} - 196 \text{ V}$$

$$= 4 \text{ V}$$

b. what is the percentage error of the reading in (1)

$$\text{Percentage error} : \left(\frac{Y_u - X_u}{Y_u} \right) \times 100 \%$$

$$= \left(\frac{200 - 196}{200} \right) \times 100 \%$$

$$= 2 \%$$