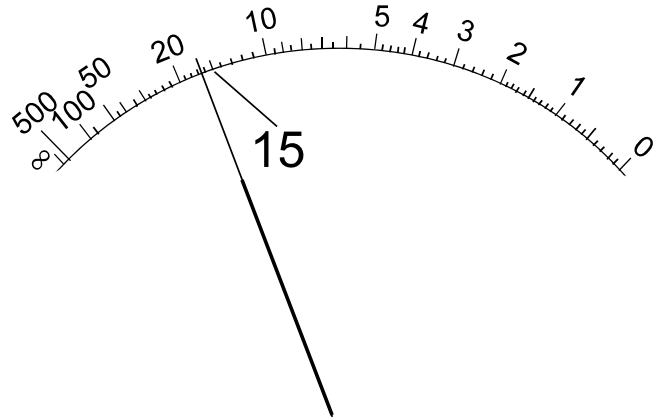


**ELECTROTECHNOLOGY
ELTK1100
QUIZ #2
SOLUTIONS**

1. What is the value of the following Ohmmeter reading if the selector switch is set on Rx10K?

Can you do something to make the reading more accurate? If yes, what is it? If no, why?

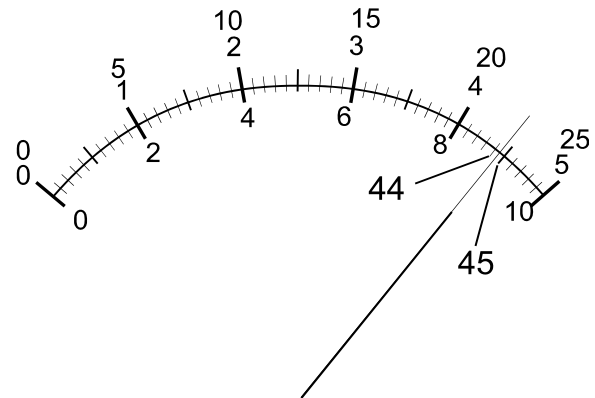


$$16.5 \times 10K = 16.5 * 10,000 = 165,000\Omega = 165k\Omega$$

*Yes, switch range switch to Rx100K (1.65 * 100,000), which will place needle between half-scale and full-scale deflection.*

2. What is the value of the following D.C. milliAmmeter reading if the selector switch is set on 50?

Can you do something to make the reading more accurate? If yes, what is it? If no, why?

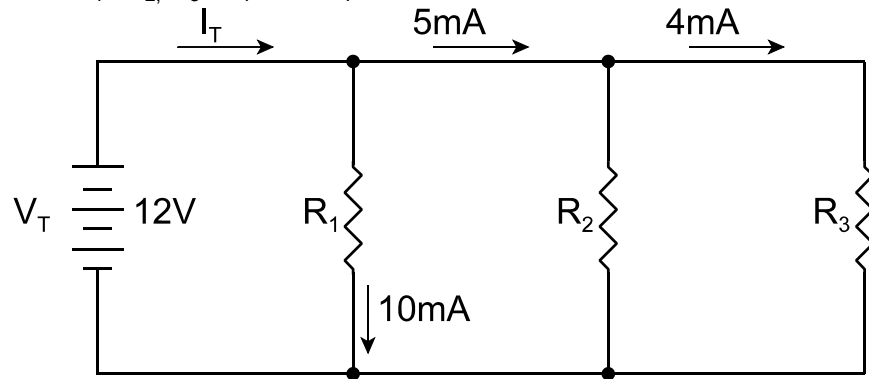


44.5mA

No, needle is between half-scale and full-scale deflection.

You cannot read 44.5mA on a 25mA scale.

3. Calculate the values of R_1 , R_2 , R_3 , R_T , and I_T .



$$V_T = V_1 = V_2 = V_3 = 12V \quad 1$$

$$I_2 = 5mA - 4mA = 1mA \quad 2$$

$$I_T = I_1 + I_2 + I_3 = 10mA + 1mA + 4mA = 15mA \quad 3$$

$$R_1 = \frac{V_1}{I_1} = \frac{12V}{10mA} = 1200\Omega \quad 4$$

$$R_2 = \frac{V_2}{I_2} = \frac{12V}{1mA} = 12000\Omega \quad 5$$

$$R_3 = \frac{V_3}{I_3} = \frac{12V}{4mA} = 3000\Omega \quad 6$$

$$R_T = \frac{V_T}{I_T} = \frac{12V}{15mA} = 800\Omega \quad 7$$

	V (V)	I (mA)	R (Ω)
T	12	15^3	800^7
1	12^1	10	1200^4
2	12^1	1^2	12000^5
3	12^1	4	3000^6