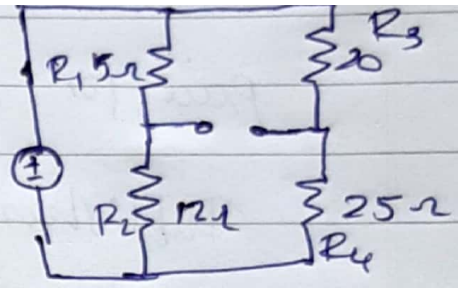
Thevenins Voltage $V_{AB} = V_A - V_B$



$V_A = V \times R_2 / R_1 + R_2$

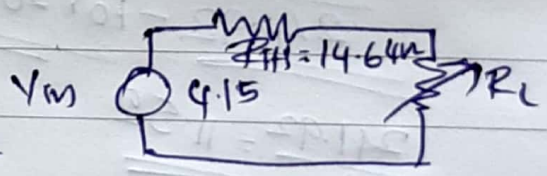
$V_A = 30 \times 12 / 5 + 12$ $\quad V_A = 21.17V$ //

$V_B = V \times R_4 / R_3 + R_4$

$= 30 \times 25 / 20 + 25 = 16.66V$ //

$V_{AB} = 21.17 - 16.66 = 4.51V$ //

To Calculate R_{TH}.



$R_{TH} = R_{AB} = (R_1 R_2 / R_1 + R_2) + (R_3 R_4) / R_3 + R_4$ $\quad R_{TH} = 14.6\Omega$ //

$R_{TH} = 14.64\Omega$