



BERZIET UNIVERSITY
FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

ENEE 2110

Circuits Laboratory

Experiment.4 Prelab

Network Theorems

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Teaching Assistance:

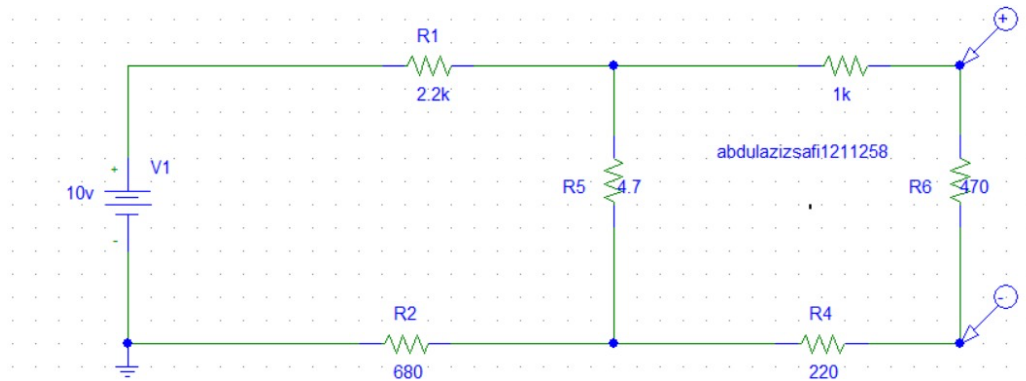
Eng. Mohammad Deek

Aug.2025

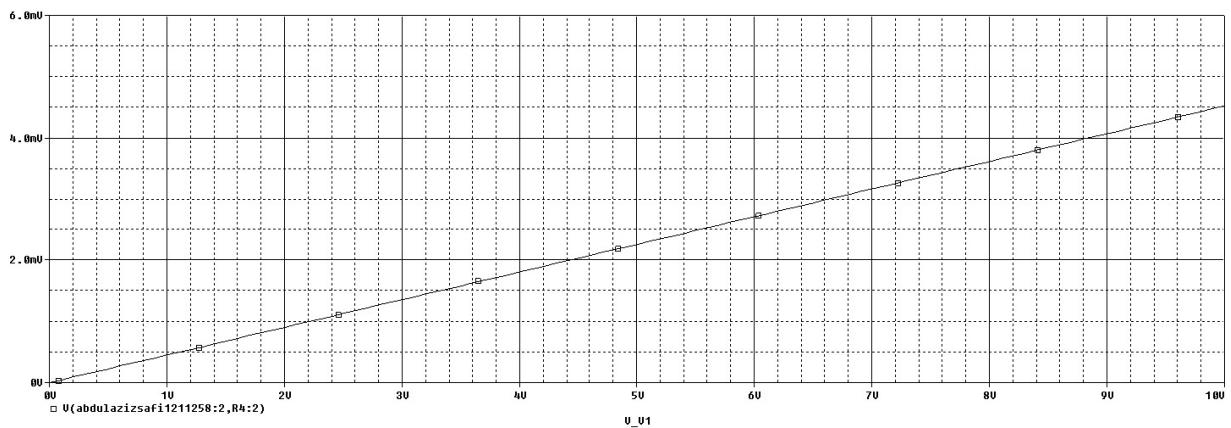
Part (a)

The proportionality theorem .

1...



Part (a)



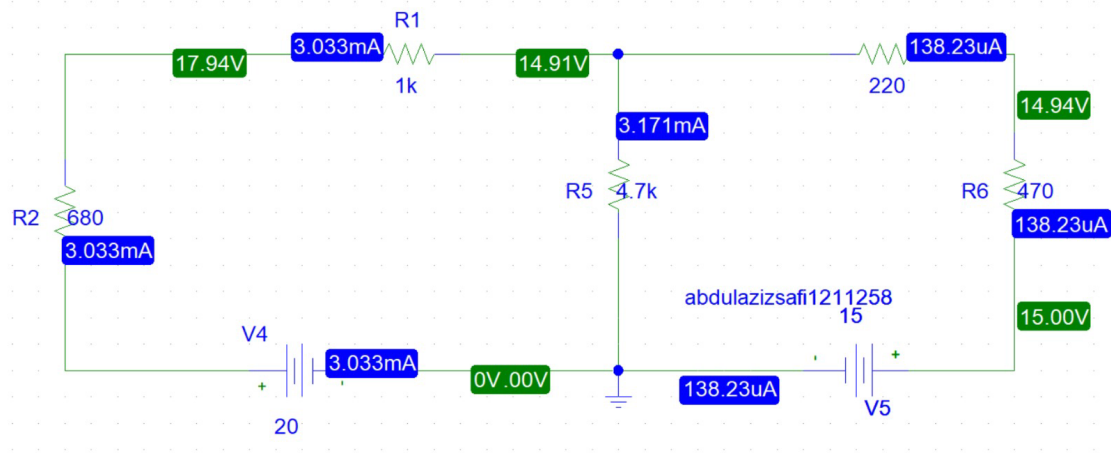
When $V_{in} = 10$ volt $V_0 = (392.476 \text{ mV})$.

When $V_{in} = 5$ volt $V_0 = (196.233 \text{ mV})$.

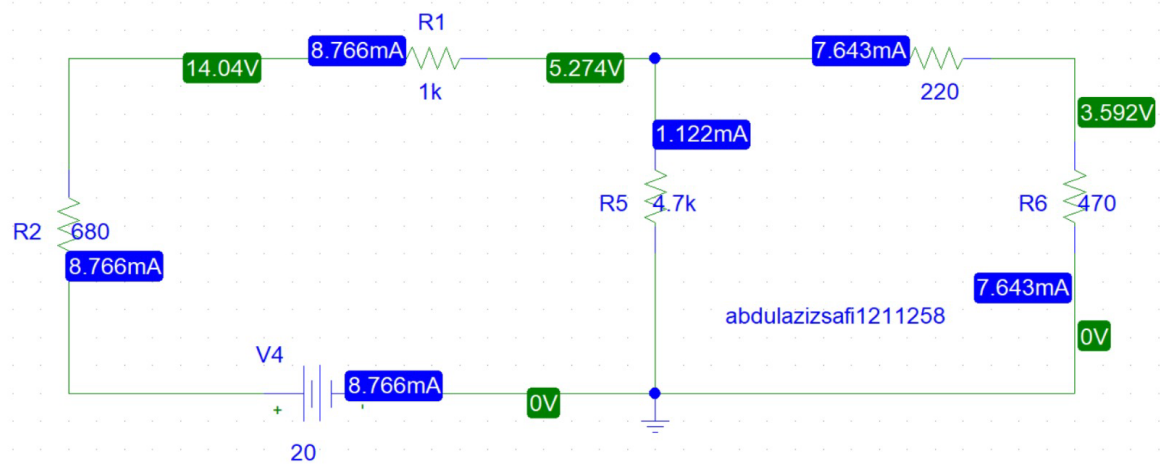
Part (B)

The superposition theorem

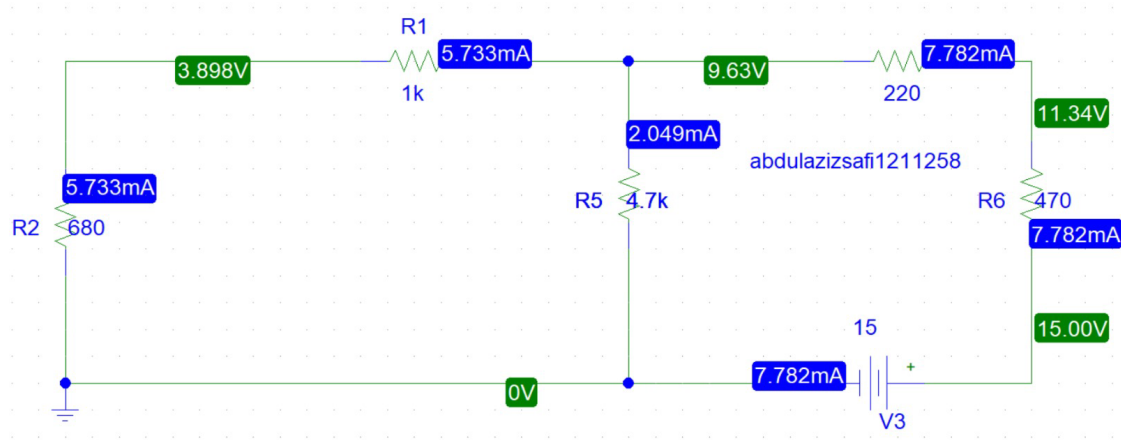
4.2



4.3



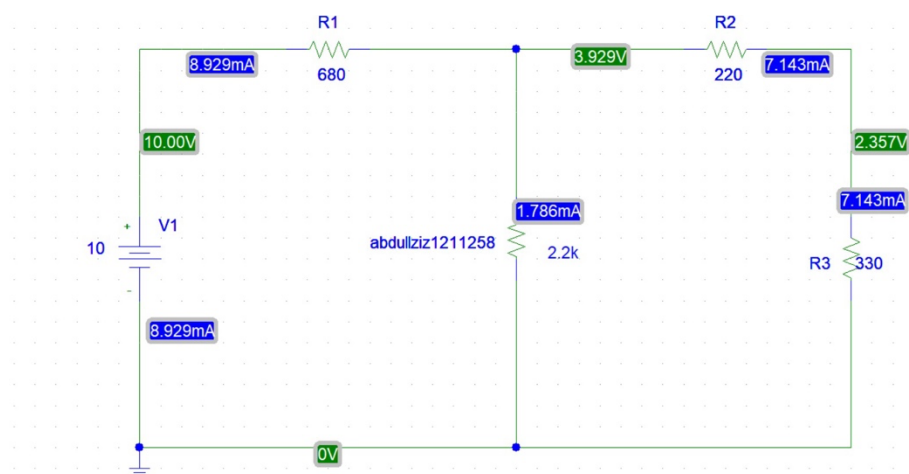
Part (B)...



Part © ..

Thevenin theorem .

4.5....1 and 2 .

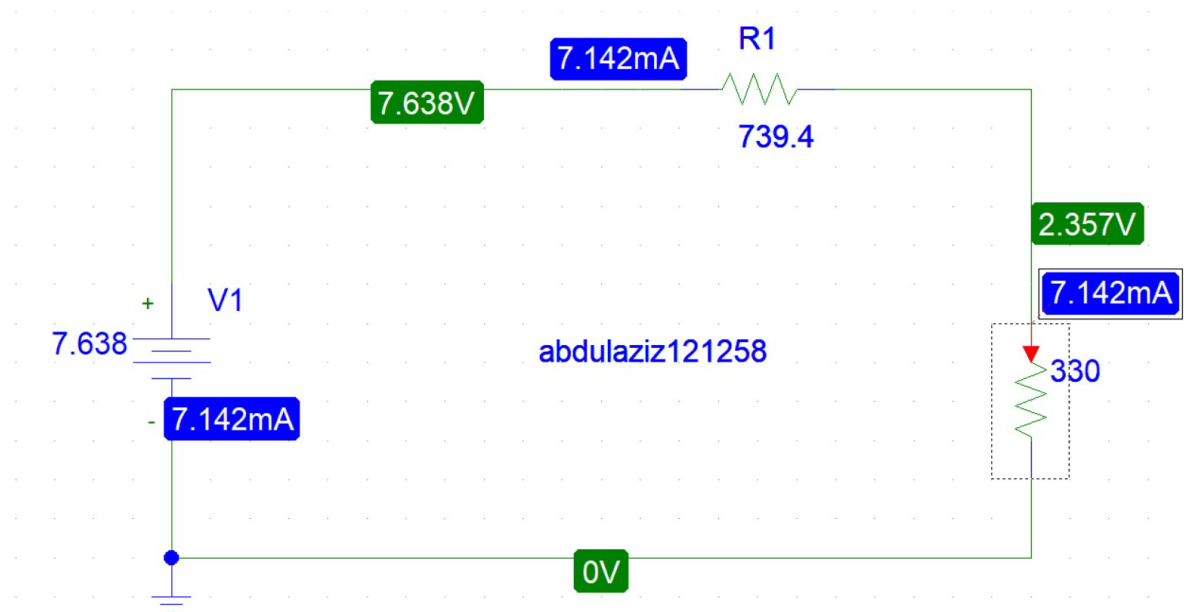


$$R_{Th} = (220 + (R2 \text{ parallel with } R4))$$

$$R_{Th} = 220 + (680 * 2200 / 2880) = 739 = .74k...$$

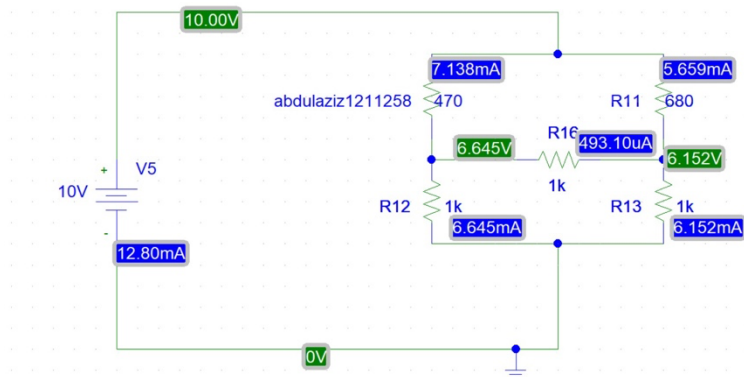
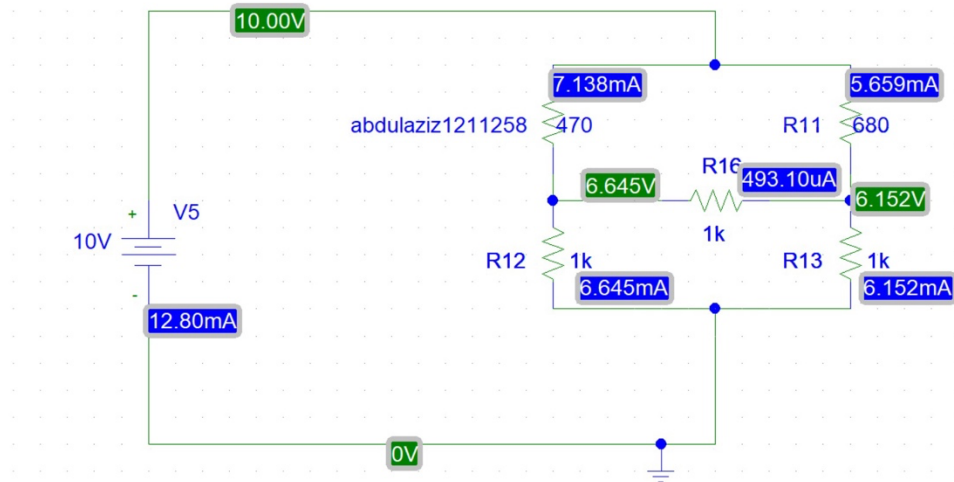
V_{Th} = using nodel at node 1 =4.5 volt ...

4.5 3



Part (D).....

The delta is ...



$$V_{ab} = V_b - V_a = (6.566 - 5.828) = .738 \text{ volt}$$

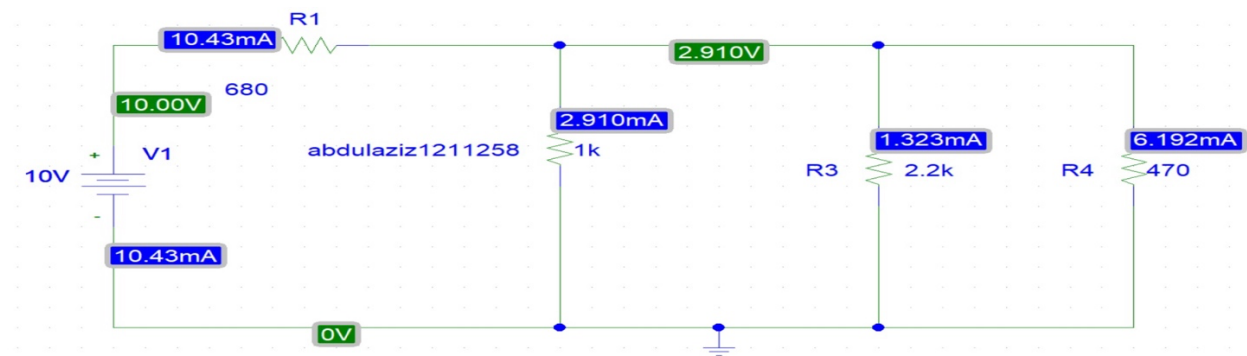
Delta to y is ...

2 ... the current $I = 10.09 \text{ A}$.

Part €

The reciprocity theorem ...

4.9 ... 1



The current in R2 is 2.910 mA

