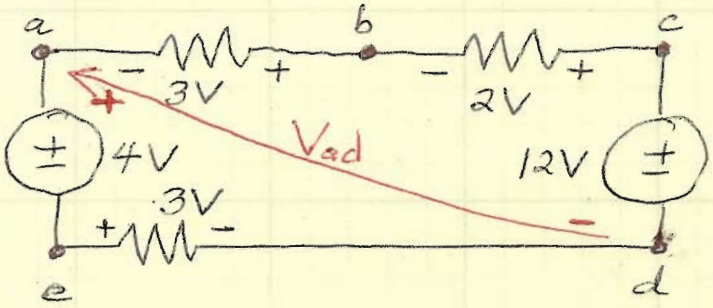
Example | | Dr. Holbert

The following problem solution is intended as an example to demonstrate to you how to systematically solve an exercise in an organized manner and properly present the results such that another engineer can check and verify your calculations

2.19 Find V_{ad} in the network below.



Use KVL around the loop a, b, c, d, a

$$\Sigma V_{Loop} = 0$$

$$V_{ab} + V_{bc} + V_{cd} + V_{da} = 0$$

Note $V_{da} = -V_{ad}$, so

$$V_{ab} + V_{bc} + V_{cd} = V_{ad}$$

$$-3 + -2 + 12 = V_{ad}$$

$$\boxed{V_{ad} = 7 \text{ volts}}$$

As a check of my answer, use KVL around loop a, d, e, a

$$\Sigma V = 0 = V_{ad} + V_{de} + V_{ea}$$

$$V_{ad} = -(V_{de} + V_{ea})$$

$$= -(-3 - 4) = 7 \text{ volts}$$

$\therefore$ verified

Note: this way an easier way, use shortest distance to arrive at an answer quicker

Repeating such text from the book makes for a great exam studing aid.

Use a few words to describe your approach or strategy or theory.

Notes can be very informative to everyone

Final answer is boxed with units

I used the diagram above to add my own notations (in color) to facilitate my solution.

A note to help myself later, especially exam studying.

Clearly, an important attribute of the above solution is that it is legible.