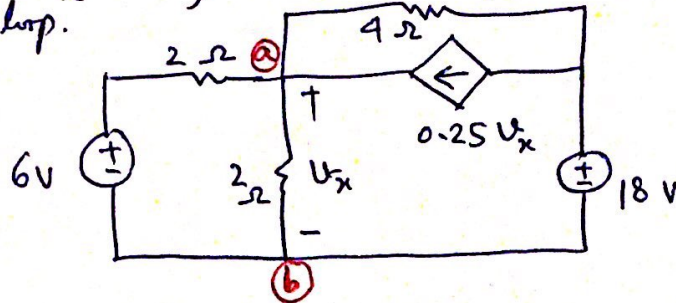


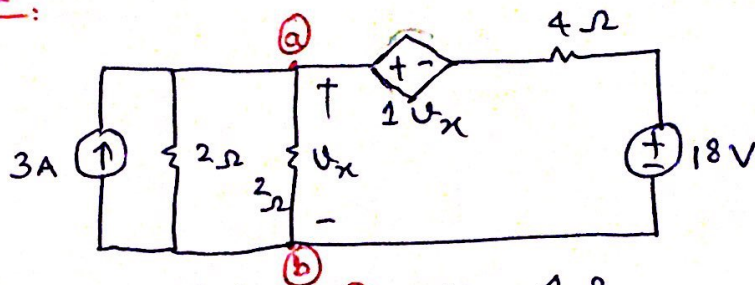
## Example 4.7 : Source Transformation

(PP 138 SERVED Sadiku)

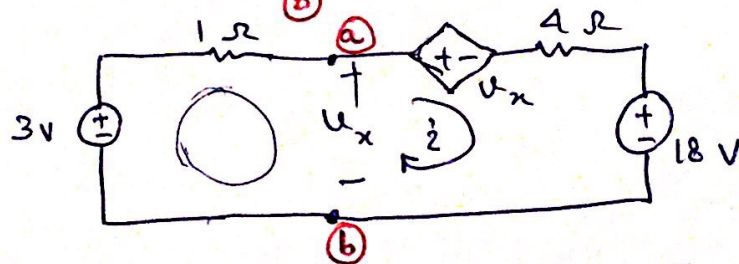
Find  $V_x$  using source transformation by reducing the circuit to a single loop.



Solution:



or



{ Notice that terminals for  $V_x$  are intact }

$$\text{So } -3 + i + V_x + 4i + 18 = 0$$

$$\text{also } 5i + V_x = -15$$

$$-3 + i + V_x = 0$$

$$\text{So } i = 3 - V_x$$

$$\text{Hence } 5(3 - V_x) + V_x = -15$$

$$15 - 5V_x + V_x = -15$$

$$-4V_x = -30$$

$$V_x = 7.5 \text{ V}$$

*OK*