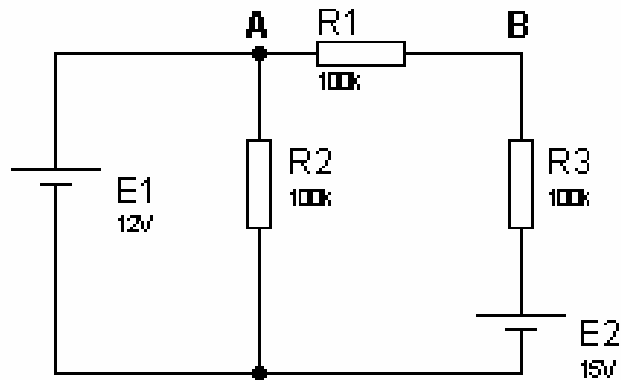




Test

Exercice

Utiliser le théorème de superposition pour calculer la tension U_{AB} aux bornes de $R1$.



Solution Exercice

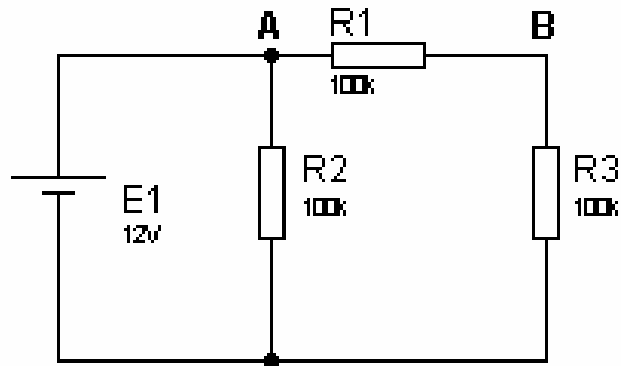


Fig1

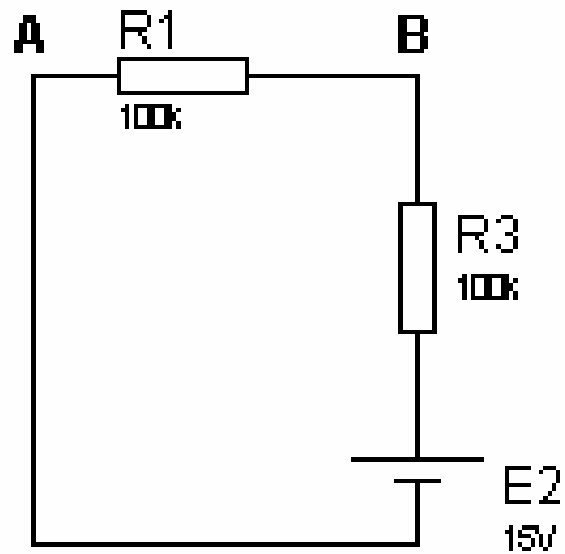


Fig2

1- on calcule la tension U'_{AB} avec E2 en court-circuit (fig3)

$$U'_{AB} = E1 \times R1 / [R3 + R1] = 12V \times 100 / 200 = 6V$$

2- on calcule la tension U''_{AB} avec E1 en court-circuit (fig4)

$$U''_{AB} = - U''_{BA} = -E2 \times R1 / [R1 + R3] = -15V \times 100 / 200 = -7,5V$$

$$3- U_{AB} = U'_{AB} + U''_{AB} = 6V - 7,5V = 1,5V$$