

MOCK TEST 2	Branchements en série ou en parallèle
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série

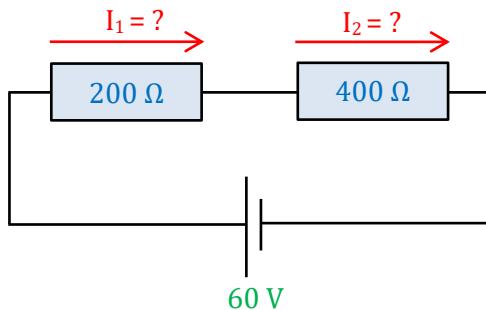
$$I = \frac{U}{R_1 + R_2}$$

parallèle

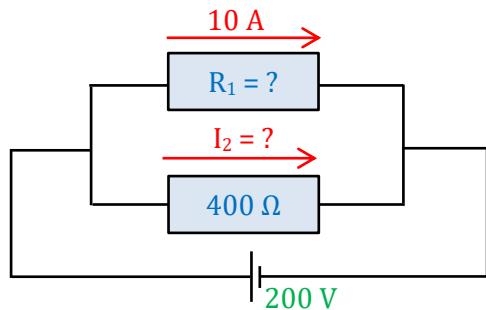
$$I_1 = \frac{U}{R_1} \quad I_2 = \frac{U}{R_2} \quad I = I_1 + I_2$$

Trouvez les valeurs indéterminées (*find the unknown values*) :

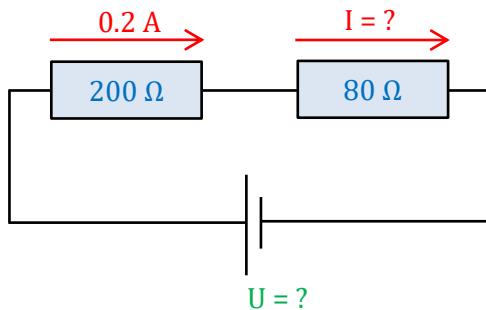
a)



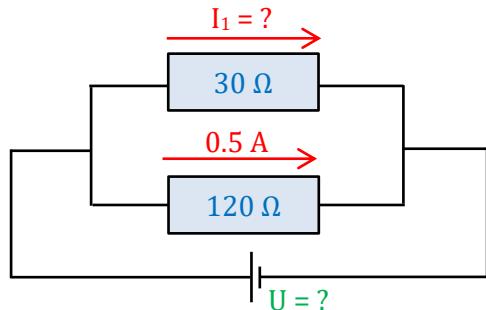
b)

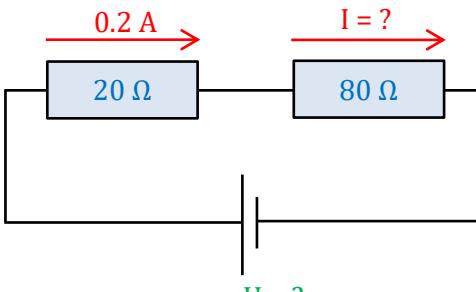
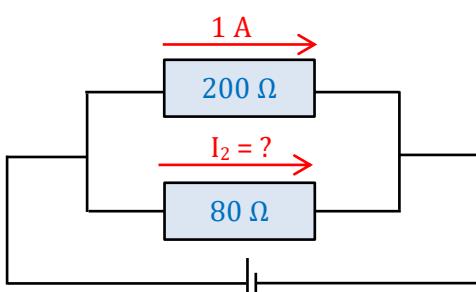
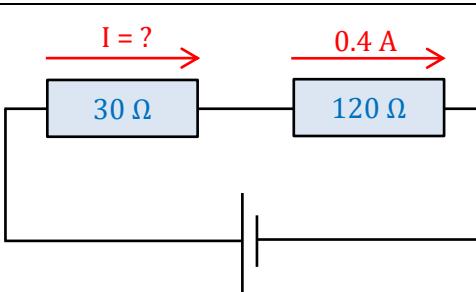
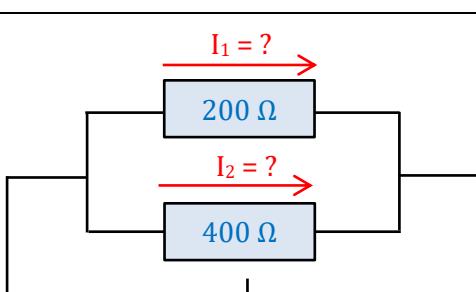
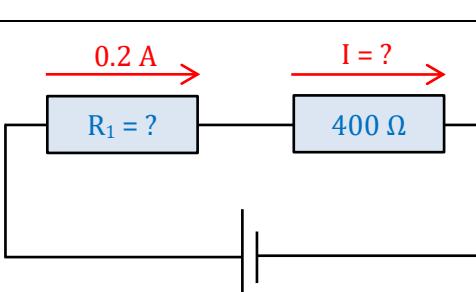
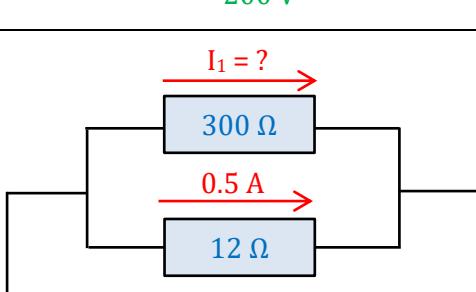


c)



d)



- e) 
 A circuit diagram showing a series circuit. On the left, there is a battery symbol with a voltage $U = ?$. To its right is a resistor of 20Ω , followed by a resistor of 80Ω . A current of 0.2 A flows through the 20Ω resistor from left to right. Another current arrow, labeled $I = ?$, points to the right through the 80Ω resistor.
- f) 
 A circuit diagram showing a parallel circuit. On the left, there is a battery symbol with a voltage $U = ?$. There are two parallel branches. The top branch contains a resistor of 200Ω . The bottom branch contains a resistor of 80Ω . A current of 1 A flows through the 200Ω resistor from left to right. A current arrow, labeled $I_2 = ?$, points to the right through the 80Ω resistor.
- g) 
 A circuit diagram showing a series circuit. On the left, there is a battery symbol with a voltage $U = ?$. To its right is a resistor of 30Ω , followed by a resistor of 120Ω . A current arrow, labeled $I = ?$, points to the right through the 30Ω resistor. Another current arrow, labeled 0.4 A , points to the right through the 120Ω resistor.
- h) 
 A circuit diagram showing a parallel circuit. On the left, there is a battery symbol with a voltage 60 V . There are two parallel branches. The top branch contains a resistor of 200Ω . The bottom branch contains a resistor of 400Ω . Two current arrows, both labeled $I_1 = ?$, point to the right through the 200Ω and 400Ω resistors respectively.
- i) 
 A circuit diagram showing a series circuit. On the left, there is a battery symbol with a voltage 200 V . To its right is a resistor labeled $R_1 = ?$, followed by a resistor of 400Ω . A current of 0.2 A flows through the R_1 resistor from left to right. Another current arrow, labeled $I = ?$, points to the right through the 400Ω resistor.
- j) 
 A circuit diagram showing a parallel circuit. On the left, there is a battery symbol with a voltage $U = ?$. There are two parallel branches. The top branch contains a resistor of 300Ω . The bottom branch contains a resistor of 12Ω . Two current arrows, both labeled $I_1 = ?$, point to the right through the 300Ω and 12Ω resistors respectively. A third current arrow, labeled 0.5 A , points to the right through the bottom branch.