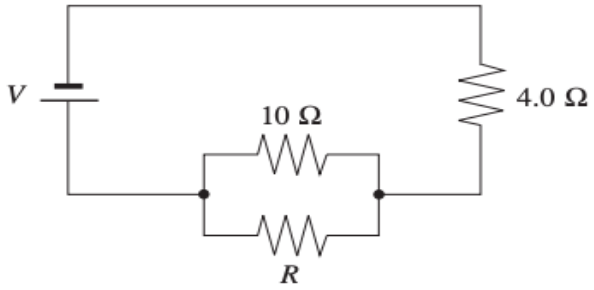
**PHYSICS 11**

# ELECTRIC CIRCUITS

1.

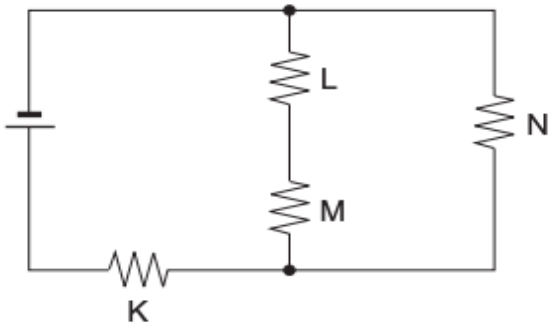
What value of $R$ in the circuit shown below will cause the parallel combination (10 Ω and $R$) to dissipate the same power as the 4.0 Ω resistor?




A. 0.26 Ω
B. 2.9 Ω
C. 6.0 Ω
D. 6.7 Ω

2.

All the resistors shown in the circuit have the same resistance value.

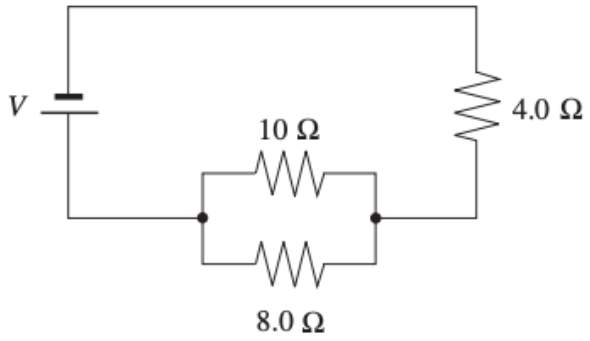



Which resistor dissipates the most heat?

A. K
B. L
C. M
D. N

3.

3. A resistor is added in parallel to the 4.0 Ω resistor shown in the diagram below.

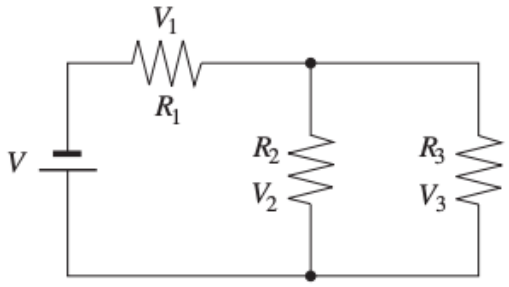



What happens to the power dissipated by the 8.0 Ω resistor and by the 4.0 Ω resistor?

| | $P_{8.0\,\Omega}$ | $P_{4.0\,\Omega}$ |
|---|---|---|
| A. | decreases | increases |
| B. | decreases | decreases |
| C. | increases | increases |
| D. | increases | decreases |

4.

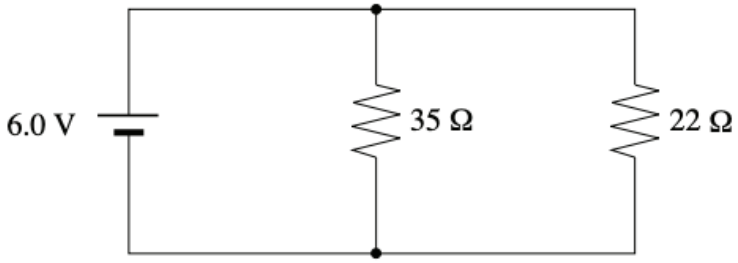
Which of the following statements is true for the electric circuit shown below, regardless of the resistors used?




A. $V_1 = V_2$
B. $V = V_2 + V_3$
C. $V = V_1 + V_3$
D. $V = V_1 + V_2 + V_3$

5.

What current would be drawn from the power supply in the circuit shown below?




A. 0.11 A
B. 0.17 A
C. 0.27 A
D. 0.44 A