

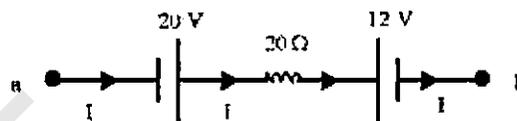
Question 74328-04
0.28-58%

An electrical source with internal resistance $r = 2.0 \text{ Ohm}$ is used to operate a lamp of resistance $R = 18 \text{ Ohm}$. What fraction of the total power is delivered to the lamp?

- (a) 0.8.
(b) 0.5.
(c) 1.8.
(d) 0.9.
(e) 0.2.

28-5 Potential Differences**Question 744**28-05
0.49-47%

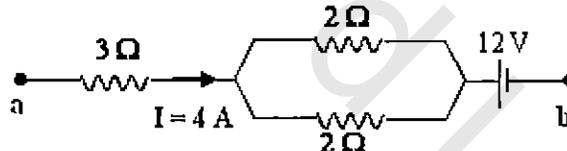
In Figure 4, if $I = 1.5 \text{ A}$ in the circuit segment shown, what is the potential difference $V_b - V_a$?

**Figure 4**

- (a) -38 V
(b) +12 V
(c) +38 V
(d) +22 V
(e) -22 V

Question 74528-05
0.39-43%

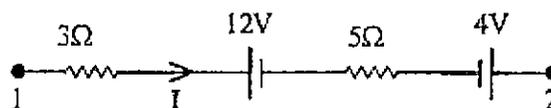
In Figure 3, the current in the 3 ohms resistor is 4 A. The potential difference $V_b - V_a$ is:

**Figure 3**

- (a) -28 V
(b) -22 V
(c) 12 V
(d) 22 V
(e) 28 V

Question 74628-05
0.12-65%

If the current I in figure (5) is equal to 4.0 A, then the potential difference between point 1 and 2, i.e. $(V_2 - V_1)$, is:

**Figure (5)**

- (a) -24 Volts.
(b) 24 Volts.
(c) 40 Volts.
(d) -40 Volts.
(e) Zero.

Question 747

28-05

0.42-69%

A battery is connected across a series combination of two identical resistors. If the potential difference across the terminals of the battery is V , and the current in the battery is I , then

- (a) the potential difference across each resistor is V and the current in each resistor is $I/2$.
- (b) the potential difference across each resistor is $V/2$ and the current in each resistor is I .
- (c) the potential difference across each resistor is $V/2$ and the current in each resistor is $I/2$.
- (d) the potential difference across each resistor is V and the current in each resistor is I .
- (e) the potential difference across each resistor is $V/2$ and the current in each resistor is $2I$.

Question 748

28-05

0.50-48%

In figure 5, the current in the 5.0-ohm resistor is 3.0 A. What is the potential difference $V_a - V_b$?

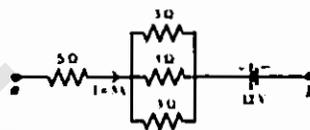


FIGURE 5

- (a) + 30 V
- (b) - 6.0 V
- (c) + 6.0 V
- (d) + 54 V
- (e) - 30 V

Question 749

28-05

0.52-25%

In figure 2, a battery of emf of 12-Volt and internal resistance of $r = 3.0$ Ohm is connected to a bulb of resistance R . If the bulb will light at a steady current of 0.1 A, what should the value of R be?

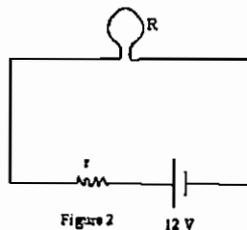


Figure 2 12 V

- (a) 117 Ohm.
- (b) 40 Ohm.
- (c) 200 Ohm.
- (d) 130 Ohm.
- (e) 35 Ohm.

Question 750

28-05

0.38-50%

The current in single-loop circuit is 5.0 A. When an additional resistance of 2.0 Ohm is added in series, the current drops to 4.0 A. What was the resistance in the original circuit?

- (a) 6.0 Ohm.
- (b) 1.0 Ohm.
- (c) 8.0 Ohm.
- (d) 2.0 Ohm.
- (e) 4.0 Ohm.