

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) A vehicle has four parking lights all connected in parallel and one of the bulbs burns out. Technician A says that this would cause the parking light circuit fuse to blow (open). Technician B says that it would decrease the current in the circuit. Which technician is correct? 1) _____
A) Technician A only
B) Technician B only
C) Both technicians
D) Neither technician
- 2) The voltage drop on each branch of a parallel circuit is _____. 2) _____
A) Equal
B) Reduced by the resistance of loads in each branch
C) Increased by the resistance of loads in each branch
D) None of these
- 3) Two bulbs are connected in parallel to a 12-volt battery. One bulb has a resistance of 6 ohms and the other bulb has a resistance of 2 ohms. Technician A says that only the 2 ohm bulb will light because all of the current will flow through the path with the least resistance and no current will flow through the 6 ohm bulb. Technician B says that the 6 ohm bulb will be dimmer than the 2 ohm bulb. Which technician is correct? 3) _____
A) Technician A only
B) Technician B only
C) Both technicians
D) Neither technician
- 4) Three resistors are connected to a 12-volt battery in parallel. The current flow through each resistor is 4 amperes. What is the value of the resistors? 4) _____
A) 1 ohm
B) 2 ohms
C) 3 ohms
D) 4 ohms
- 5) The total circuit resistance of a parallel circuit is always _____ the lowest resistance present in any branch of the circuit. 5) _____
A) Less than
B) More than
C) Equal to
D) None of these

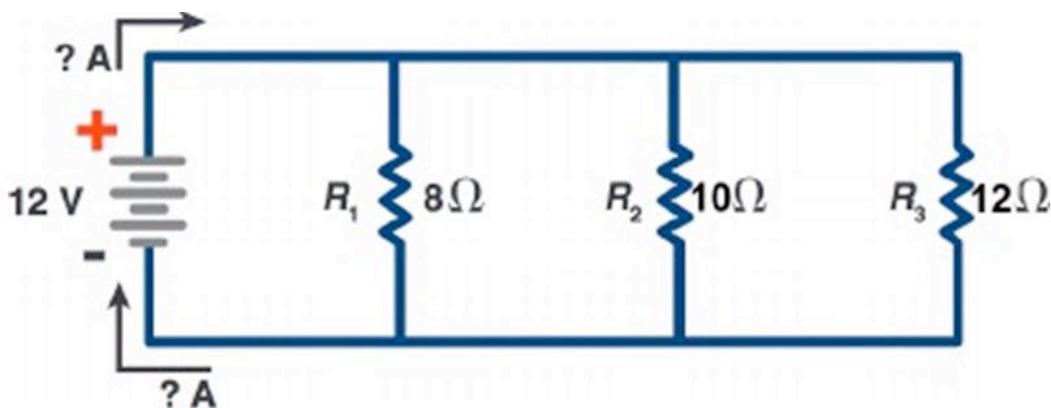
- 6) Calculate the total resistance and current in a parallel circuit with three resistors of 4 ohms, 8 ohms, and 16 ohms, using any one of the five methods (calculator suggested). What are the values? 6) _____
- A) 28 ohms (0.4 amperes)
 - B) 14 ohms (0.8 amperes)
 - C) 4 ohms (3.0 amperes)
 - D) 2.3 ohms (5.3 amperes)

- 7) Two identical bulbs are connected to a 12-volt battery in parallel. The voltage drop across the first bulb is 12 volts as measured with a voltmeter. What is the voltage drop across the other bulb? 7) _____
- A) Zero volts
 - B) 1 volt
 - C) 6 volts
 - D) 12 volts

- 8) More electrical current will tend to flow through the branch of a parallel circuit with _____ resistance. 8) _____
- A) Lowest
 - B) Highest
 - C) Infinite
 - D) None of these

- 9) A parallel circuit has 8 loads (resistances). Three of the loads are 60 ohms each; four of the loads are 120 ohms each; the remaining load has a resistance of 10 ohms. What is the ESTIMATED total resistance of this circuit? 9) _____
- A) Less than 10 ohms
 - B) At least 120 ohms
 - C) About 670 ohms
 - D) Not enough information

- 10) What is the total current flow in this parallel circuit? 10) _____



- A) 3.7 A
- B) 0.4 A
- C) 2.5 A
- D) Not enough information

Answer Key

Testname: AEE6_7A

- 1) B
Page Ref: 80-82
- 2) A
Page Ref: 80-82
- 3) B
Page Ref: 81
- 4) C
Page Ref: 80-81
- 5) A
Page Ref: 80-82
- 6) D
Page Ref: 81-84
- 7) D
Page Ref: 80
- 8) A
Page Ref: 80-82
- 9) A
Page Ref: 82-83
- 10) A
Page Ref: 82-83