PRACTICE EXAM 2: A6 SIMULATION — ELECTRICAL/ELECTRONIC SYSTEMS

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1. A circuit has 12 volts applied and a resistance of 4 ohms. The current flowing through the circuit is:

A. 8 amperes

B. 3 amperes

C. 16 amperes

D. 48 amperes

2. The proper formula for calculating current using Ohm's Law is:

A. Current equals voltage times resistance

B. Current equals voltage plus resistance

C. Current equals voltage minus resistance

D. Current equals voltage divided by resistance

3. Two 6-ohm resistors are connected in series. The total circuit resistance is:

A. 12 ohms

B. 3 ohms

C. 6 ohms

D. 36 ohms

4. Two 6-ohm resistors are connected in parallel. The total circuit resistance is:

A. 12 ohms

B. 6 ohms

C. 3 ohms

D. 36 ohms

5. The proper purpose of Kirchhoff's Voltage Law is to:

A. Apply compressed air to the circuit

B. Replace the circuit as a precaution

C. Filter contaminants from the circuit

D. State that the sum of all voltage drops in a closed loop equals the source voltage

6. A vehicle's circuit has been tested. The total voltage drop across all components in the loop equals 12 volts, but the source voltage is 14 volts. The MOST likely cause is:

A. Apply compressed air to the circuit

B. An undetected resistance (poor connection or damaged wire) consuming the missing 2 volts somewhere in the loop

C. Replace the circuit as a precaution

D. Replace the brake fluid as the only step

7. The proper procedure for reading a wiring schematic is to:

A. Apply compressed air to the schematic

B. Replace the schematic as a precaution

C. Identify the circuit's power source, trace through components and connections, and identify the ground path

D. Visually inspect for visible damage only

8. A wiring schematic shows a circuit with a relay. The proper purpose of a relay is to:

A. Use a low-current control circuit to switch a high-current load circuit

B. Apply compressed air to the circuit

C. Replace the circuit as a precaution

D. Filter contaminants from the circuit

9. The proper procedure for testing a relay is to:

A. Apply compressed air to the relay

B. Replace the relay as a precaution

C. Visually inspect for visible damage only

D. Verify control circuit voltage, verify load circuit power, test relay coil resistance, and test the contact operation

10. A vehicle's relay has been tested. The relay clicks when energized but the load circuit does not function. The MOST likely cause is:

A. Apply compressed air to the relay

B. Failed relay contacts (welded open or burned), even though the coil functions properly

C. Replace the load as a precaution

D. Replace the brake fluid as the only step

11. The proper purpose of a solenoid is to:

A. Apply compressed air to the device

B. Replace the device as a precaution

C. Convert electrical energy into mechanical motion through electromagnetic action

D. Filter contaminants from the device

12. The proper procedure for testing a solenoid is to:

A. Verify proper voltage and ground at the solenoid, measure coil resistance, and verify mechanical operation

B. Apply compressed air to the solenoid

C. Replace the solenoid as a precaution

D. Visually inspect for visible damage only

13. A vehicle has been brought in with a complaint of inconsistent electrical operation. The technician finds visible corrosion at a major ground point. The MOST likely effect of poor ground integrity is:

A. Apply compressed air to the ground

B. Replace the ground as a precaution

C. Replace the brake fluid as the only step

D. Voltage drop across the ground path causing reduced voltage available to the affected loads

14. The proper procedure for testing a ground circuit is to:

A. Apply compressed air to the ground

B. Use voltage drop testing during operation, comparing the reading to specification

C. Replace the ground as a precaution

D. Visually inspect for visible damage only

15. A vehicle's ground circuit has been tested with voltage drop testing. The reading shows 0.5 volts drop on a circuit specified for less than 0.1 volts. The MOST appropriate action is:

A. Identify the source of resistance in the ground path, repair as needed, and verify the corrected voltage drop

B. Apply compressed air to the ground

C. Replace the ground as a precaution

D. Replace the brake fluid as the only step

16. The proper purpose of an oscilloscope in electrical diagnosis is to:

A. Apply compressed air to the circuit

B. Replace the scope as a precaution

C. Display voltage signals over time, allowing visualization of waveforms that DMMs cannot show

D. Filter contaminants from the circuit

17. A vehicle's wheel speed sensor signal has been measured with an oscilloscope. The waveform shows reduced amplitude as the wheel rotates. The MOST likely cause is:

A. Apply compressed air to the sensor

B. Replace the sensor as a precaution

C. Replace the brake fluid as the only step

D. A damaged tone ring, contamination, or sensor air gap issue affecting signal generation

18. The proper procedure for diagnosing intermittent electrical faults is to:

A. Apply compressed air to the system

B. Use scan tool live data, oscilloscope monitoring, or wiggle testing to identify the fault during operation

C. Replace components as a precaution

D. Visually inspect for visible damage only

19. A vehicle has been brought in with a complaint of intermittent electrical issues that occur only when driving over rough roads. The MOST likely cause is:

A. A loose connection, marginal wiring, or chafed insulation that becomes affected by vibration

B. Apply compressed air to the system

C. Replace the affected systems as a precaution

D. Replace the brake fluid as the only step

20. The proper procedure for performing wiggle testing is to:

A. Apply compressed air to the wiring

B. Replace the wiring as a precaution

C. Wiggle wiring and connections during operation to identify fault locations through symptom changes

D. Visually inspect for visible damage only

21. A vehicle has been brought in with a complaint of a battery that goes dead overnight. Parasitic current draw measurement reads 250 milliamps. The MOST appropriate action is:

A. Apply compressed air to the battery

B. Replace the battery as a precaution

C. Replace the alternator as a precaution

D. Identify the source of excessive parasitic draw, repair as needed, and verify draw is within specification

22. The proper procedure for isolating a parasitic draw source is to:

A. Apply compressed air to the system

B. Pull fuses one at a time while monitoring parasitic current, identifying which circuit produces the draw

C. Replace all fuses as a precaution

D. Visually inspect for visible damage only

23. A vehicle has been brought in with a complaint of a flat battery after 3 days of non-use. Parasitic current measures 75 milliamps and the manufacturer's specification is 50 milliamps. The MOST likely cause is:

A. A circuit consuming more than design current draw, requiring identification of the specific cause

B. Apply compressed air to the battery

C. Replace the battery as a precaution

D. Replace the alternator as a precaution

24. The proper procedure for verifying a sealed lead-acid (SLA) battery is to:

A. Apply compressed air to the battery

B. Replace the battery as a precaution

C. Use a digital battery tester to verify state of charge, conductance, and overall condition

D. Visually inspect for visible damage only

25. A vehicle's battery was recently replaced. The new battery is failing within weeks of installation. The MOST appropriate diagnostic action is to:

A. Apply compressed air to the battery

B. Replace the battery as a precaution

C. Replace the alternator as a precaution

D. Verify charging system operation, check for excessive parasitic draw, and identify the cause of premature failure

26. The proper procedure for verifying battery cable connections is to:

A. Apply compressed air to the connections

B. Verify clean and tight connections, perform voltage drop testing during cranking, and verify within specification

C. Replace the cables as a precaution

D. Visually inspect for visible damage only

27. A vehicle has been brought in with a complaint that the battery shows reduced capacity. The technician finds visible terminal corrosion. The MOST appropriate action is:

A. Clean the corroded terminals, apply terminal protection, and verify proper connection

B. Apply compressed air to the terminals

C. Replace the battery as a precaution

D. Replace the cables as a precaution

28. The proper procedure for testing a starter motor on the bench is to:

A. Apply compressed air to the starter

B. Replace the starter as a precaution

C. Connect to a known good battery, command operation, and verify proper rotation, current draw, and pinion engagement

D. Visually inspect for visible damage only

29. A vehicle has been brought in with a complaint that the starter spins freely without engaging the engine. The MOST likely cause is:

A. Apply compressed air to the starter

B. Replace the battery as a precaution

C. Replace the alternator as a precaution

D. A worn starter drive (Bendix), failed starter solenoid, or worn ring gear teeth preventing proper engagement

30. The proper procedure for inspecting a flywheel ring gear is to:

A. Apply compressed air to the ring gear

B. Visually inspect through the starter opening, rotate the engine to inspect all teeth, and verify no damage or wear

C. Replace the ring gear as a precaution

D. Visually inspect for visible damage only

31. A vehicle's alternator has been brought in with a complaint of overcharging (charging voltage above specification). The MOST likely cause is:

A. Apply compressed air to the alternator

B. Replace the alternator as a precaution

C. Replace the battery as a precaution

D. A failed voltage regulator (internal to the alternator on most modern systems)

32. The proper procedure for diagnosing alternator overcharging is to:

A. Verify proper system voltage at varied loads, identify the source of regulation failure, and address accordingly

B. Apply compressed air to the alternator

C. Replace the alternator as a precaution

D. Replace the battery as a precaution

33. A vehicle's alternator drive belt has been measured and found to have excessive wear. The MOST appropriate action is:

A. Apply compressed air to the belt

B. Replace the alternator as a precaution

C. Replace the belt with a new component meeting specification

D. Apply hard-facing material to the belt

34. The proper procedure for verifying alternator belt tension is to:

A. Apply compressed air to the belt

B. Use a belt tension gauge or follow the manufacturer's specified procedure to verify tension within specification

C. Replace the belt as a precaution

D. Visually inspect for visible damage only

35. A vehicle has been brought in with a complaint of headlight flickering during normal operation. The MOST likely cause is:

A. Apply compressed air to the headlights

B. Replace the headlights as a precaution

C. Replace the brake fluid as the only step

D. A loose connection in the headlight circuit, marginal ground, or charging system fluctuations

36. The proper procedure for diagnosing headlight flickering is to:

A. Verify charging system operation, inspect connections and grounds, and identify the specific cause

B. Apply compressed air to the headlights

C. Replace the headlights as a precaution

D. Visually inspect for visible damage only

37. A vehicle equipped with daytime running lights (DRL) has been brought in with a complaint that the DRL system does not function. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the headlights as a precaution

C. A failed DRL module, fault in the DRL circuit, or DRL bulbs requiring replacement

D. Replace the brake fluid as the only step

38. The proper procedure for diagnosing a turn signal that does not flash properly is to:

A. Apply compressed air to the turn signal

B. Verify all turn signal bulbs operate, check the flasher unit operation, verify wiring, and identify the cause

C. Replace the turn signal switch as a precaution

D. Replace the brake fluid as the only step

39. A vehicle has been brought in with a complaint that the turn signal flashes too rapidly (hyperflash). The MOST likely cause is:

A. Apply compressed air to the turn signal

B. Replace the turn signal switch as a precaution

C. Replace the brake fluid as the only step

D. A failed turn signal bulb causing the flasher to detect reduced load and increase the flash rate

40. The proper procedure for verifying instrument cluster gauge accuracy is to:

A. Compare gauge readings to scan tool data showing the actual sensor input, and verify gauge response matches sensor data

B. Apply compressed air to the cluster

C. Replace the cluster as a precaution

D. Visually inspect for visible damage only

41. A vehicle has been brought in with a complaint that the fuel gauge reads incorrectly. Scan tool data shows the fuel level sensor is providing accurate input to the system. The MOST likely cause is:

A. Apply compressed air to the cluster

B. Replace the fuel level sensor as a precaution

C. A fault in the instrument cluster, gauge driver, or display interpretation of the accurate input

D. Replace the brake fluid as the only step

42. The proper procedure for diagnosing instrument cluster bulb-out indicators is to:

A. Apply compressed air to the cluster

B. Verify the affected bulb, verify the bulb-out monitoring circuit, and identify the specific cause

C. Replace the cluster as a precaution

D. Replace the brake fluid as the only step

43. A vehicle equipped with power seats has been brought in with a complaint that the seat does not adjust in one direction. The MOST likely cause is:

A. Apply compressed air to the seat

B. Replace the seat as a precaution

C. Replace the brake fluid as the only step

D. A failed motor for that direction, fault in the seat switch, or fault in the wiring for that motor

44. The proper procedure for diagnosing power seat faults is to:

A. Verify the customer concern, check switch operation, verify motor operation in each direction, and identify the cause

B. Apply compressed air to the seat

C. Replace the seat as a precaution

D. Visually inspect for visible damage only

45. A vehicle equipped with power mirrors has been brought in with a complaint that one mirror does not adjust. The other mirror operates normally. The MOST likely cause is:

A. Apply compressed air to the mirror

B. Replace the mirror as a precaution

C. A fault in the affected mirror's motor, switch position, or wiring isolated to that mirror

D. Replace the brake fluid as the only step

46. The proper procedure for diagnosing power mirror faults is to:

A. Apply compressed air to the mirror

B. Verify the customer concern, check switch operation, verify mirror motor operation, and identify the cause

C. Replace the mirror as a precaution

D. Replace the brake fluid as the only step

47. A vehicle equipped with sunroof has been brought in with a complaint that the sunroof does not operate. The MOST appropriate action is:

A. Apply compressed air to the sunroof

B. Replace the sunroof as a precaution

C. Replace the brake fluid as the only step

D. Verify the customer concern, retrieve any DTCs, check switch operation, verify motor operation, and identify the cause

48. The proper procedure for sunroof initialization or relearn (when required) is to:

A. Apply compressed air to the sunroof

B. Replace the sunroof as a precaution

C. Follow the manufacturer-specified initialization procedure to teach the sunroof its end positions

D. Replace the brake fluid as the only step

49. A vehicle equipped with rear defroster has been brought in with a complaint that the rear defroster does not function. The MOST likely cause is:

A. A fault in the defroster grid (broken element), fault in the defroster relay, or fault in the wiring

B. Apply compressed air to the defroster

C. Replace the defroster as a precaution

D. Replace the brake fluid as the only step

50. The proper procedure for testing a rear defroster grid is to:

A. Apply compressed air to the grid

B. Use a DMM or test light to verify voltage at the grid, then trace each element to identify any breaks

C. Replace the defroster as a precaution

D. Visually inspect for visible damage only

PRACTICE EXAM 2: A6 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

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1. B — 3 amperes. Ohm's Law states current equals voltage divided by resistance. With 12 volts and 4 ohms, current equals 12 divided by 4, which equals 3 amperes. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
2. D — Current equals voltage divided by resistance. Ohm's Law (I = V/R) is the foundational electrical formula that relates the three primary electrical quantities. The other operations (multiplication, addition, subtraction) do not produce a valid relationship. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
3. A — 12 ohms. Series resistance equals the sum of the individual resistances. Two 6-ohm resistors in series produce a total of 12 ohms. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
4. C — 3 ohms. Parallel resistance is calculated as 1/Rt = 1/R1 + 1/R2. Two equal resistors in parallel produce half their value, so two 6-ohm resistors in parallel produce 3 ohms. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
5. D — State that the sum of all voltage drops in a closed loop equals the source voltage. Kirchhoff's Voltage Law is the diagnostic foundation for circuit analysis. Understanding this law allows technicians to identify where voltage is being lost in a malfunctioning circuit. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
6. B — An undetected resistance (poor connection or damaged wire) consuming the missing 2 volts somewhere in the loop. Kirchhoff's Voltage Law states the sum of voltage drops must equal the source. Missing voltage indicates undetected resistance consuming the difference. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
7. C — Identify the circuit's power source, trace through components and connections, and identify the ground path. Schematic reading requires systematic tracing from power to ground. This approach reveals the complete circuit operation and potential failure points. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

8. A — Use a low-current control circuit to switch a high-current load circuit. Relays separate the control function from the load function. The low-current control side energizes the relay coil; the relay contacts then switch the high-current load. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

9. D — Verify control circuit voltage, verify load circuit power, test relay coil resistance, and test the contact operation. Relay testing requires verification of both circuits and the relay's internal components. Each test isolates different potential failure modes. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

10. B — Failed relay contacts (welded open or burned), even though the coil functions properly. Relay click with no load operation isolates the fault to the contacts. The coil is energizing properly but the contacts cannot make the connection to the load. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

11. C — Convert electrical energy into mechanical motion through electromagnetic action. Solenoids use electromagnetic principles to produce linear motion. The magnetic field generated by the coil pulls a plunger, converting electricity into mechanical work. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

12. A — Verify proper voltage and ground at the solenoid, measure coil resistance, and verify mechanical operation. Solenoid testing requires verification of input power and ground, coil resistance measurement, and operational verification. Each test addresses different potential failure modes. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

13. D — Voltage drop across the ground path causing reduced voltage available to the affected loads. Poor ground integrity creates a high-resistance path, consuming voltage that should be available to circuits. The affected loads receive insufficient voltage and cannot operate properly. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

14. B — Use voltage drop testing during operation, comparing the reading to specification. Ground circuit testing requires voltage drop measurement during current flow. The DMM reading reveals if the ground path is providing the low-resistance path required. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

15. A — Identify the source of resistance in the ground path, repair as needed, and verify the corrected voltage drop. Excessive ground voltage drop indicates resistance in the path. Identification, repair, and verification together restore proper ground integrity. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

16. C — Display voltage signals over time, allowing visualization of waveforms that DMMs cannot show. The oscilloscope captures rapidly changing signals that the DMM averages. Waveform

visualization reveals signal characteristics critical for diagnosing modern electronic systems. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

17. D — A damaged tone ring, contamination, or sensor air gap issue affecting signal generation. Reduced amplitude in a wheel speed signal indicates the sensor is not receiving proper input. Tone ring issues, contamination, or air gap problems each reduce signal generation. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

18. B — Use scan tool live data, oscilloscope monitoring, or wiggle testing to identify the fault during operation. Intermittent fault diagnosis requires capturing the fault while it occurs. Live data, oscilloscope monitoring, and wiggle testing each provide ways to observe intermittent faults. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

19. A — A loose connection, marginal wiring, or chafed insulation that becomes affected by vibration. Vibration-related electrical issues are the diagnostic signature of marginal connections or wiring damage. Each cause becomes problematic when motion changes the contact or insulation state. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

20. C — Wiggle wiring and connections during operation to identify fault locations through symptom changes. Wiggle testing reveals marginal connections by physically disturbing them while the system is operating. Symptoms that change during wiggling identify the fault location. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

21. D — Identify the source of excessive parasitic draw, repair as needed, and verify draw is within specification. 250 milliamps is well above typical parasitic specification (usually below 50 milliamps). Identification, repair, and verification address the underlying cause. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

22. B — Pull fuses one at a time while monitoring parasitic current, identifying which circuit produces the draw. Parasitic source isolation requires systematic fuse-pulling to identify which circuit is responsible. Current drop when a specific fuse is removed identifies the affected circuit. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

23. A — A circuit consuming more than design current draw, requiring identification of the specific cause. 75 milliamps with 50 milliamp specification indicates a circuit drawing more than design. The cause must be identified through systematic isolation. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

24. C — Use a digital battery tester to verify state of charge, conductance, and overall condition. SLA battery verification uses digital testers since electrolyte access is sealed. The tester evaluates state of charge, conductance, and overall battery health. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

25. D — Verify charging system operation, check for excessive parasitic draw, and identify the cause of premature failure. Premature battery failure indicates an underlying problem rather than a simple battery issue. Charging system or parasitic draw causes must be identified to prevent recurrence. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

26. B — Verify clean and tight connections, perform voltage drop testing during cranking, and verify within specification. Battery cable verification requires both visual inspection and voltage drop testing under load. Both confirm proper electrical performance. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

27. A — Clean the corroded terminals, apply terminal protection, and verify proper connection. Corroded terminals can be cleaned and protected; replacement is not required for surface corrosion. Terminal protection prevents recurrence. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

28. C — Connect to a known good battery, command operation, and verify proper rotation, current draw, and pinion engagement. Bench testing isolates the starter from vehicle wiring. Verification of rotation, current, and engagement confirms proper starter operation. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

29. D — A worn starter drive (Bendix), failed starter solenoid, or worn ring gear teeth preventing proper engagement. Starter spinning without engagement isolates the issue to the engagement mechanism. Worn drive, failed solenoid, or ring gear damage all prevent proper engagement. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

30. B — Visually inspect through the starter opening, rotate the engine to inspect all teeth, and verify no damage or wear. Ring gear inspection requires complete tooth examination through engine rotation. Each tooth must be evaluated for damage or wear. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

31. D — A failed voltage regulator (internal to the alternator on most modern systems). Overcharging indicates the regulator cannot maintain proper output. On most modern systems, the regulator is internal to the alternator; replacement of the alternator typically replaces both. *ASE Task Reference: A6 Domain C — Charging System. Review subsection 6.3.*

32. A — Verify proper system voltage at varied loads, identify the source of regulation failure, and address accordingly. Overcharging diagnosis requires verification at varied loads and identification

of the regulation failure source. The cause determines the proper repair. *ASE Task Reference: A6 Domain C — Charging System. Review subsection 6.3.*

33. C — Replace the belt with a new component meeting specification. Worn drive belt cannot be repaired and continues to wear; replacement is required. New belt of proper specification restores proper alternator drive. *ASE Task Reference: A6 Domain C — Charging System. Review subsection 6.3.*

34. B — Use a belt tension gauge or follow the manufacturer's specified procedure to verify tension within specification. Belt tension verification requires the manufacturer's specified method (gauge or procedure). Proper tension prevents slippage and premature wear. *ASE Task Reference: A6 Domain C — Charging System. Review subsection 6.3.*

35. D — A loose connection in the headlight circuit, marginal ground, or charging system fluctuations. Headlight flickering is the diagnostic signature of intermittent voltage delivery. Each cause produces voltage variation that manifests as flickering. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

36. A — Verify charging system operation, inspect connections and grounds, and identify the specific cause. Headlight flickering diagnosis requires systematic verification of multiple potential causes. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

37. C — A failed DRL module, fault in the DRL circuit, or DRL bulbs requiring replacement. DRL system failures isolate to the DRL-specific components or the bulbs they control. Each cause produces the symptom of non-functioning DRLs. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

38. B — Verify all turn signal bulbs operate, check the flasher unit operation, verify wiring, and identify the cause. Turn signal flash diagnosis requires systematic verification of bulbs, flasher, and wiring. Each contributes to potential causes. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

39. D — A failed turn signal bulb causing the flasher to detect reduced load and increase the flash rate. Hyperflash is the diagnostic signature of a failed bulb on that side. The flasher detects the reduced load and signals the failure through the increased flash rate. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

40. A — Compare gauge readings to scan tool data showing the actual sensor input, and verify gauge response matches sensor data. Gauge accuracy verification compares the displayed value to the actual sensor input. Discrepancy indicates a cluster issue rather than sensor issue. *ASE Task Reference: A6 Domain E — Instrument Cluster, Driver Information, and Body Electrical Systems. Review subsection 6.5.*

41. C — A fault in the instrument cluster, gauge driver, or display interpretation of the accurate input. Accurate sensor input with incorrect gauge display isolates the issue to the cluster. The cluster cannot properly display the data it receives. *ASE Task Reference: A6 Domain E — Instrument Cluster, Driver Information, and Body Electrical Systems. Review subsection 6.5.*

42. B — Verify the affected bulb, verify the bulb-out monitoring circuit, and identify the specific cause. Bulb-out indicator diagnosis requires verification of the bulb itself and the monitoring circuit. Either component can produce the symptom. *ASE Task Reference: A6 Domain E — Instrument Cluster, Driver Information, and Body Electrical Systems. Review subsection 6.5.*

43. D — A failed motor for that direction, fault in the seat switch, or fault in the wiring for that motor. Single-direction seat failure isolates the issue to the motor or wiring for that specific direction. Switch position-dependent issues also localize this way. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

44. A — Verify the customer concern, check switch operation, verify motor operation in each direction, and identify the cause. Power seat diagnosis requires systematic approach. Each direction's motor and switch position must be verified. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

45. C — A fault in the affected mirror's motor, switch position, or wiring isolated to that mirror. Single mirror failure isolates the issue to that mirror's specific components. The other mirror operating normally rules out shared circuit issues. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

46. B — Verify the customer concern, check switch operation, verify mirror motor operation, and identify the cause. Power mirror diagnosis requires systematic approach. Each motor and switch combination must be evaluated. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

47. D — Verify the customer concern, retrieve any DTCs, check switch operation, verify motor operation, and identify the cause. Sunroof diagnosis requires comprehensive systematic approach including DTC retrieval. Modern sunroofs may store DTCs that aid diagnosis. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

48. C — Follow the manufacturer-specified initialization procedure to teach the sunroof its end positions. Sunroof initialization is required after certain service to teach the system its operational range. Manufacturer specifications govern the procedure. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

49. A — A fault in the defroster grid (broken element), fault in the defroster relay, or fault in the wiring. Rear defroster failure isolates to the grid, relay, or wiring. Each component contributes to potential causes. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

50. B — Use a DMM or test light to verify voltage at the grid, then trace each element to identify any breaks. Defroster grid testing requires both verification of input power and tracing of individual elements. Broken elements appear as gaps in the conductive path. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*