PRACTICE EXAM 3: A5 SIMULATION — BRAKES

1. A vehicle equipped with ABS has been brought in with a complaint that the ABS warning light is illuminated. Scan tool data shows DTCs for left front wheel speed sensor circuit. The MOST likely cause is:

A. A worn power steering pulley

B. A failed left front wheel speed sensor or open circuit in the sensor wiring

C. A worn ball joint

D. Air in the clutch hydraulic system

2. The proper procedure for verifying wheel speed sensor signal is to:

A. Apply 12 volts directly to the sensor

B. Replace the sensor as a precaution

C. Visually inspect for visible damage only

D. Monitor scan tool data during wheel rotation, verify signal at varied speeds, and compare to specification

3. A vehicle equipped with active wheel speed sensors has been brought in for service. The proper purpose of an active wheel speed sensor is to:

A. Generate hydraulic pressure for the brake system

B. Drive the brake pump during operation

C. Provide a digital signal at all wheel speeds, including very low speeds, with internal electronics powering the sensor

D. Filter contaminants from the brake fluid

4. A vehicle equipped with passive (variable reluctance) wheel speed sensors has been brought in for service. The proper purpose of a passive wheel speed sensor is to:

A. Generate hydraulic pressure for the brake system

B. Drive the brake pump during operation

C. Filter contaminants from the brake fluid

D. Generate an AC voltage signal as the tone ring rotates past the sensor, with signal strength proportional to wheel speed

5. The proper procedure for measuring wheel speed sensor air gap (when applicable) is to:

A. Use a feeler gauge to measure the gap between the sensor and the tone ring, comparing to specification

B. Apply compressed air to the sensor

C. Replace the sensor as a precaution

D. Visually inspect for visible damage only

6. A vehicle equipped with ABS has been brought in with a complaint of false ABS activation during normal braking. Scan tool data shows no DTCs. The MOST likely cause is:

A. A worn power steering pulley

B. A worn ball joint

C. Air in the clutch hydraulic system

D. A damaged tone ring, contaminated wheel speed sensor, or marginal sensor signal not severe enough to set a DTC

7. The proper procedure for diagnosing intermittent ABS faults is to:

A. Replace the ABS module as the most direct repair

B. Verify the concern, retrieve any stored DTCs, monitor scan data during the symptom, and inspect for marginal connections or signal issues

C. Replace the steering rack as a precaution

D. Replace the brake fluid as the only step

8. A vehicle equipped with ABS has been brought in for brake hydraulic service. After the service, the ABS warning light illuminates and a DTC for the hydraulic control unit is stored. The MOST likely cause is:

A. A worn power steering pulley

B. A worn ball joint

C. Air trapped in the ABS hydraulic control unit that requires scan tool activation during bleeding

D. Air in the clutch hydraulic system

9. The proper procedure for bleeding the ABS hydraulic control unit is to:

A. Use the scan tool to activate the HCU solenoids during the bleeding procedure, expel air with fresh fluid, and verify proper operation

B. Apply compressed air to the HCU

C. Replace the HCU as a precaution

D. Replace the brake fluid as the only step

10. A vehicle equipped with traction control has been brought in with a complaint that the traction control activates inappropriately during normal acceleration. The MOST likely cause is:

A. A worn power steering pulley

B. A worn ball joint

C. Air in the clutch hydraulic system

D. A wheel speed sensor reporting incorrect speed, damaged tone ring, or sensor signal issue producing false slip detection

11. The proper purpose of traction control is to:

A. Generate hydraulic pressure for the brake system

B. Drive the brake pump during operation

C. Apply braking to a wheel that is slipping during acceleration, transferring torque to the wheel with traction

D. Filter contaminants from the brake fluid

12. A vehicle equipped with stability control has been brought in for diagnosis. Scan tool data shows the steering angle sensor reports a significant offset from center even when the steering wheel is centered. The MOST likely cause is:

A. A worn power steering pulley

B. The steering angle sensor requires recalibration after recent service, or the sensor has failed

C. A worn ball joint

D. Air in the clutch hydraulic system

13. The proper procedure for steering angle sensor calibration is to:

A. Apply compressed air to the sensor

B. Replace the sensor as a precaution

C. Visually estimate the centering

D. Center the steering wheel mechanically, perform the manufacturer-specified calibration with a scan tool, and verify the calibration

14. A vehicle equipped with stability control has been brought in for diagnosis. Scan tool data shows the yaw sensor signal varies erratically during normal driving. The MOST likely cause is:

A. A failed yaw sensor or marginal connection in the sensor circuit

B. A worn power steering pulley

C. A worn ball joint

D. Air in the clutch hydraulic system

15. The proper purpose of a yaw sensor is to:

A. Generate hydraulic pressure for the brake system

B. Drive the brake pump during operation

C. Measure the rotational rate of the vehicle around its vertical axis, providing input for stability control intervention

D. Filter contaminants from the brake fluid

16. A vehicle equipped with stability control has been brought in for diagnosis. Scan tool data shows the lateral acceleration sensor signal does not respond to vehicle motion. The MOST likely cause is:

A. A worn power steering pulley

B. A failed lateral acceleration sensor or open circuit in the sensor wiring

C. A worn ball joint

D. Air in the clutch hydraulic system

17. The proper purpose of a lateral acceleration sensor is to:

A. Generate hydraulic pressure for the brake system

B. Drive the brake pump during operation

C. Filter contaminants from the brake fluid

D. Measure side-to-side acceleration of the vehicle, providing input for stability control intervention

18. A vehicle equipped with electronic brake-force distribution (EBD) has been brought in for diagnosis. The proper purpose of EBD is to:

A. Apply compressed air to the brakes

B. Generate hydraulic pressure for the brake system

C. Drive the brake pump during operation

D. Vary brake-force distribution between front and rear axles based on vehicle load and operating conditions, replacing the mechanical proportioning valve

19. A vehicle equipped with brake assist (BA) has been brought in for diagnosis. The proper purpose of brake assist is to:

A. Generate hydraulic pressure for the brake system

B. Drive the brake pump during operation

C. Apply maximum braking force when the system detects an emergency stop, even if the driver is not pressing hard enough

D. Filter contaminants from the brake fluid

20. A vehicle equipped with automatic emergency braking (AEB) has been brought in with a complaint that the AEB warning light is illuminated. The MOST likely cause is:

A. A worn power steering pulley

B. A failed forward-facing camera, failed radar sensor, miscalibration, or fault in the AEB module

C. A worn ball joint

D. Air in the clutch hydraulic system

21. The proper procedure for AEB sensor calibration after windshield replacement is to:

A. Apply compressed air to the camera

B. Replace the AEB module as a precaution

C. Visually estimate the alignment

D. Park on a level surface, perform the manufacturer-specified calibration with proper targets, and verify proper operation

22. A vehicle equipped with regenerative braking (hybrid or EV) has been brought in with a complaint of inconsistent brake pedal feel. The MOST likely cause is:

A. The regenerative-to-friction brake transition not blending smoothly, often due to brake control module issues, sensor faults, or hydraulic system issues

B. A worn power steering pulley

C. A worn ball joint

D. Air in the clutch hydraulic system

23. The proper purpose of regenerative braking is to:

A. Generate hydraulic pressure for the brake system

B. Recover kinetic energy during deceleration by using the electric motor as a generator, charging the battery while slowing the vehicle

C. Drive the brake pump during operation

D. Filter contaminants from the brake fluid

24. A vehicle equipped with brake-by-wire technology has been brought in for diagnosis. The proper procedure for diagnosing a brake-by-wire fault is to:

A. Apply compressed air to the brake-by-wire system

B. Replace the brake-by-wire module as the most direct repair

C. Replace the steering rack as a precaution

D. Verify the customer concern, retrieve stored DTCs, monitor scan tool data, and verify proper component operation per the manufacturer's procedure

25. A vehicle equipped with an electro-hydraulic brake booster has been brought in for diagnosis. The proper purpose of an electro-hydraulic brake booster is to:

A. Apply compressed air to the booster

B. Replace the vacuum booster as a precaution

C. Provide brake assist using an electric pump and accumulator instead of engine vacuum, supporting modern engines and EVs that lack adequate vacuum supply

D. Filter contaminants from the brake fluid

26. A vehicle has been brought in with a complaint of brake noise during the first few stops after a cold start. The noise stops once the brakes are warm. The MOST likely cause is:

A. Surface rust on the rotors from overnight humidity that wears off after a few stops, or pad/rotor combination prone to cold-noise issues

B. A worn power steering pulley

C. A worn ball joint

D. Air in the clutch hydraulic system

27. The proper procedure for diagnosing brake noise that occurs only at certain temperatures is to:

A. Apply compressed air to the brakes

B. Verify the operating conditions, inspect for surface contamination, identify pad and rotor compatibility, and determine if the noise is normal break-in or requires service

C. Replace the brakes as a precaution

D. Replace the brake fluid as the only step

28. A vehicle has been brought in with a complaint of brake judder (low-frequency vibration during braking). The MOST likely cause is:

A. A worn power steering pulley

B. A worn ball joint

C. Rotor thickness variation, rotor surface deposits (cold judder), or thermal cracking (hot judder)

D. Air in the clutch hydraulic system

29. The proper procedure for diagnosing brake judder is to:

A. Apply compressed air to the rotors

B. Replace the rotors as a precaution

C. Replace the brake pads as the most direct repair

D. Verify the conditions producing the judder, measure rotor runout and thickness variation, inspect for surface deposits, and identify the specific cause

30. A vehicle has been brought in with a complaint of brake fade during prolonged or hard braking. The MOST likely cause is:

A. Brake fluid boiling from heat (vapor lock), pad fade from exceeding pad temperature limits, or rotor heat saturation

B. A worn power steering pulley

C. A worn ball joint

D. Air in the clutch hydraulic system

31. The proper procedure for preventing brake fade is to:

A. Apply compressed air to the brakes

B. Replace the brakes as a precaution

C. Replace the brake fluid as the only step

D. Use brake fluid with proper boiling point, use brake pads rated for the application, ensure rotors meet specification, and avoid prolonged or improper braking

32. A vehicle has been brought in with a complaint of brake dust accumulation that is excessive on the front wheels. The MOST likely cause is:

A. A worn power steering pulley

B. The brake pads have a high-dust friction formulation, or the front brakes are doing more work than normal, causing accelerated pad wear

C. A worn ball joint

D. Air in the clutch hydraulic system

33. The proper procedure for diagnosing excessive brake dust is to:

A. Apply compressed air to the brakes

B. Replace the brake pads as the most direct repair

C. Identify the pad type, evaluate driving conditions, inspect brake operation for issues that increase wear, and consider lower-dust pad alternatives

D. Replace the brake fluid as the only step

34. A vehicle equipped with rear disc brakes has been brought in with a complaint that the rear pads are wearing significantly faster than the front pads. The MOST likely cause is:

A. A failed proportioning valve or EBD malfunction allowing excessive rear braking, or a sticking rear caliper increasing rear brake load

B. A worn power steering pulley

C. A worn ball joint

D. Air in the clutch hydraulic system

35. The proper procedure for diagnosing uneven front-to-rear pad wear is to:

A. Apply compressed air to the brakes

B. Replace the brake pads as a precaution

C. Verify front-to-rear braking balance, inspect proportioning valve or EBD operation, inspect calipers, and identify the cause

D. Replace the brake fluid as the only step

36. A vehicle has been brought in with a complaint of brake pedal that gradually rises (becomes higher) during a long highway drive. The MOST likely cause is:

A. A worn power steering pulley

B. Drum brake self-adjusters tightening as drum heat expands, reducing pedal travel as the drums grow with heat

C. A worn ball joint

D. Air in the clutch hydraulic system

37. The proper procedure for inspecting brake fluid level is to:

A. Verify the fluid level is between minimum and maximum marks on the reservoir, with the fluid in good condition

B. Apply compressed air to the reservoir

C. Replace the fluid as a precaution

D. Visually estimate the level

38. A vehicle's brake fluid level has dropped below minimum. The MOST likely cause is:

A. A worn power steering pulley

B. A worn ball joint

C. Brake fluid leakage from the system, or worn brake pads allowing pistons to extend further (increasing volume in the calipers)

D. Air in the clutch hydraulic system

39. The proper procedure for filling brake fluid to specification is to:

A. Apply compressed air to the reservoir

B. Use only the manufacturer-specified fluid type, fill to the maximum mark, and verify the cap is properly seated

C. Replace the master cylinder as a precaution

D. Replace the brake fluid as the only step

40. A vehicle has been brought in with a complaint that the brake pedal feels different after recent brake service. Scan tool data shows DTCs for the ABS pump motor circuit. The MOST likely cause is:

A. A worn power steering pulley

B. A worn ball joint

C. Air in the clutch hydraulic system

D. The ABS hydraulic control unit was not properly bled after the service, or the ABS module needs the scan tool activation during the bleeding

41. The proper procedure for verifying ABS service has been completed correctly is to:

A. Verify all sensor connections, perform proper bleeding (with HCU activation if specified), clear stored DTCs, and verify operation through a road test

B. Apply compressed air to the ABS unit

C. Replace the ABS module as a precaution

D. Replace the brake fluid as the only step

42. A vehicle equipped with stability control has been brought in for diagnosis. The proper procedure for verifying stability control operation is to:

A. Apply compressed air to the system

B. Verify all sensor signals, perform a road test that exercises the system, and verify proper intervention occurs when conditions warrant

C. Replace the stability control module as a precaution

D. Replace the brake fluid as the only step

43. A vehicle has been brought in for routine brake inspection. The technician finds the brake pads are at 4 mm of friction material remaining. The manufacturer's specification for replacement is at 3 mm. The MOST appropriate action is:

A. Replace the brake pads immediately as a precaution

B. Recommend immediate replacement to avoid wear-out

C. Inform the customer that the pads are within specification but approaching replacement, and document the wear for the next service interval

D. Apply compressed air to the brakes

44. The proper procedure for documenting brake inspection findings is to:

A. Replace all brake components as a precaution

B. Measure pad friction material thickness, rotor thickness, and component condition; record findings; and provide recommendations to the customer based on the manufacturer's specifications

C. Apply compressed air to the brakes

D. Replace the brake fluid as the only step

45. A vehicle's brake service record shows the rotors were resurfaced 2 years ago. The current rotor thickness measurement is 0.5 mm above minimum specification. The MOST appropriate action is:

A. Recommend replacement, since further resurfacing would reduce thickness below minimum and reduce service life

B. Apply compressed air to the rotors

C. Replace the brake pads as a precaution

D. Replace the brake fluid as the only step

PRACTICE EXAM 3: A5 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

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1. B — A failed left front wheel speed sensor or open circuit in the sensor wiring. A DTC for a specific wheel speed sensor circuit isolates the issue to that sensor or its wiring. The ABS module cannot use the missing or invalid signal, illuminating the warning. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

2. D — Monitor scan tool data during wheel rotation, verify signal at varied speeds, and compare to specification. Wheel speed sensor verification requires scan tool monitoring during operation. The signal must respond properly across the speed range and match specification. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

3. C — Provide a digital signal at all wheel speeds, including very low speeds, with internal electronics powering the sensor. Active sensors include internal electronics that produce a digital signal even at very low speeds. This advantage over passive sensors makes them standard on modern vehicles. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

4. D — Generate an AC voltage signal as the tone ring rotates past the sensor, with signal strength proportional to wheel speed. Passive (VR) sensors produce AC voltage by electromagnetic induction as the tone ring teeth pass by. Signal strength increases with speed, but the sensor cannot produce signal at very low speeds. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

5. A — Use a feeler gauge to measure the gap between the sensor and the tone ring, comparing to specification. Wheel speed sensor air gap measurement requires a feeler gauge between the sensor and tone ring. The gap must be within specification for proper signal generation on adjustable systems. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

6. D — A damaged tone ring, contaminated wheel speed sensor, or marginal sensor signal not severe enough to set a DTC. False ABS activation without DTCs indicates marginal signal issues that the system reads but does not flag. Tone ring damage or contamination produce signals that look like wheel lockup. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

7. B — Verify the concern, retrieve any stored DTCs, monitor scan data during the symptom, and inspect for marginal connections or signal issues. Intermittent ABS diagnosis requires symptom-matching conditions and careful signal evaluation. Marginal connections and signal issues are common causes that defy single-point diagnosis. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

8. C — Air trapped in the ABS hydraulic control unit that requires scan tool activation during bleeding. Post-service ABS warning combined with HCU DTC is the diagnostic signature of trapped air in the HCU. The scan tool must activate the HCU solenoids to release the air during bleeding. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

9. A — Use the scan tool to activate the HCU solenoids during the bleeding procedure, expel air with fresh fluid, and verify proper operation. ABS HCU bleeding requires scan tool activation of the solenoids to release trapped air. Standard bleeding alone cannot reach the air trapped in the HCU passages. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

10. D — A wheel speed sensor reporting incorrect speed, damaged tone ring, or sensor signal issue producing false slip detection. Inappropriate traction control activation indicates the system is detecting false slip. Sensor or tone ring issues produce signals the module interprets as wheel slip. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

11. C — Apply braking to a wheel that is slipping during acceleration, transferring torque to the wheel with traction. Traction control intervenes during acceleration by braking a slipping wheel. The differential transfers torque to the non-slipping wheel, restoring traction during the event. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

12. B — The steering angle sensor requires recalibration after recent service, or the sensor has failed. Significant offset with centered steering wheel indicates the sensor zero point is incorrect. Recalibration restores proper sensor reference; if calibration fails, the sensor is failed. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

13. D — Center the steering wheel mechanically, perform the manufacturer-specified calibration with a scan tool, and verify the calibration. Steering angle calibration requires mechanical centering and scan tool calibration procedure. Verification confirms the calibration was successful. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

14. A — A failed yaw sensor or marginal connection in the sensor circuit. Erratic yaw signal indicates the sensor or its connection cannot reliably report rotation rate. Failure or marginal connection

produces unstable signal that the stability control module cannot use. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

15. C — Measure the rotational rate of the vehicle around its vertical axis, providing input for stability control intervention. The yaw sensor measures vehicle rotation around the vertical axis. Stability control uses this input combined with steering angle, lateral acceleration, and wheel speeds to determine if intervention is needed. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

16. B — A failed lateral acceleration sensor or open circuit in the sensor wiring. No response to vehicle motion indicates the sensor cannot detect lateral acceleration. Sensor failure or open circuit prevents the signal from reaching the stability control module. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

17. D — Measure side-to-side acceleration of the vehicle, providing input for stability control intervention. The lateral acceleration sensor measures side-to-side g-force. Stability control uses this input combined with other sensors to determine if the vehicle is exceeding stable cornering limits. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

18. D — Vary brake-force distribution between front and rear axles based on vehicle load and operating conditions, replacing the mechanical proportioning valve. EBD provides electronically controlled brake-force distribution that adapts to vehicle load and conditions. This replaces the fixed mechanical proportioning valve with active control. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

19. C — Apply maximum braking force when the system detects an emergency stop, even if the driver is not pressing hard enough. Brake assist detects emergency braking through pedal apply rate and applies full braking force. This compensates for drivers who do not apply full force during true emergencies. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

20. B — A failed forward-facing camera, failed radar sensor, miscalibration, or fault in the AEB module. AEB warning indicates the system cannot reliably detect forward objects. Camera, radar, calibration, or module faults each prevent proper AEB operation. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

21. D — Park on a level surface, perform the manufacturer-specified calibration with proper targets, and verify proper operation. AEB calibration after windshield replacement requires precise vehicle positioning, proper calibration procedure with manufacturer targets, and verification. Without calibration, the system produces erratic operation. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

22. A — The regenerative-to-friction brake transition not blending smoothly, often due to brake control module issues, sensor faults, or hydraulic system issues. Inconsistent pedal feel on regen-equipped vehicles indicates the transition between regenerative and friction braking is not smooth. Multiple causes can produce this symptom. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

23. B — Recover kinetic energy during deceleration by using the electric motor as a generator, charging the battery while slowing the vehicle. Regenerative braking converts vehicle kinetic energy into electrical energy. The electric motor operates as a generator during deceleration, providing braking force while charging the battery. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

24. D — Verify the customer concern, retrieve stored DTCs, monitor scan tool data, and verify proper component operation per the manufacturer's procedure. Brake-by-wire diagnosis requires scan tool integration since the system is electronically controlled. Manufacturer-specific procedures govern the diagnostic approach. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

25. C — Provide brake assist using an electric pump and accumulator instead of engine vacuum, supporting modern engines and EVs that lack adequate vacuum supply. Electro-hydraulic boosters provide assist without requiring engine vacuum. Modern small engines and EVs cannot reliably provide the vacuum traditional boosters need. *ASE Task Reference: A5 Domain A — Hydraulic, Power Assist, and Parking Brake Systems. Review subsection 5.1.*

26. A — Surface rust on the rotors from overnight humidity that wears off after a few stops, or pad/rotor combination prone to cold-noise issues. Cold-start brake noise typically results from surface rust that develops overnight. The first few brake applications wear off the rust; pad/rotor compatibility issues can also produce cold noise. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

27. B — Verify the operating conditions, inspect for surface contamination, identify pad and rotor compatibility, and determine if the noise is normal break-in or requires service. Temperature-specific noise diagnosis requires understanding of normal versus abnormal patterns. Some cold-start noise is normal; persistent or excessive noise requires service. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

28. C — Rotor thickness variation, rotor surface deposits (cold judder), or thermal cracking (hot judder). Brake judder has multiple causes depending on temperature pattern. Cold judder typically indicates surface deposits; hot judder indicates thermal damage. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

29. D — Verify the conditions producing the judder, measure rotor runout and thickness variation, inspect for surface deposits, and identify the specific cause. Brake judder diagnosis requires multiple measurements and inspections to identify the specific cause. Cold judder, hot judder, and

parallelism errors require different repairs. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

30. A — Brake fluid boiling from heat (vapor lock), pad fade from exceeding pad temperature limits, or rotor heat saturation. Brake fade has multiple causes related to heat. Fluid boiling produces vapor lock; pads can lose effectiveness above their temperature rating; rotors can saturate with heat. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

31. D — Use brake fluid with proper boiling point, use brake pads rated for the application, ensure rotors meet specification, and avoid prolonged or improper braking. Brake fade prevention requires fluid with proper boiling point, application-rated pads, proper rotors, and good driving practice. Each contributes to thermal management. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

32. B — The brake pads have a high-dust friction formulation, or the front brakes are doing more work than normal, causing accelerated pad wear. Excessive front brake dust indicates the pad formulation produces high dust or the front brakes are working harder than normal. Both produce accelerated pad wear and dust accumulation. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

33. C — Identify the pad type, evaluate driving conditions, inspect brake operation for issues that increase wear, and consider lower-dust pad alternatives. Excessive brake dust diagnosis requires evaluation of pad formulation, driving conditions, and brake operation. Lower-dust pads may resolve the symptom if the brakes are operating normally. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

34. A — A failed proportioning valve or EBD malfunction allowing excessive rear braking, or a sticking rear caliper increasing rear brake load. Faster rear pad wear indicates excessive rear braking effort. Failed proportioning, EBD malfunction, or sticking rear calipers each produce this pattern. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

35. C — Verify front-to-rear braking balance, inspect proportioning valve or EBD operation, inspect calipers, and identify the cause. Uneven front-to-rear pad wear diagnosis requires balance verification, valve/EBD inspection, and caliper inspection. Each system component contributes to potential causes. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*

36. B — Drum brake self-adjusters tightening as drum heat expands, reducing pedal travel as the drums grow with heat. Rising pedal during long highway drives is the diagnostic signature of self-adjuster operation responding to drum heat expansion. The drums grow with heat; the self-adjusters take up the additional space. *ASE Task Reference: A5 Domain B — Drum Brake Diagnosis and Repair. Review subsection 5.2.*

37. A — Verify the fluid level is between minimum and maximum marks on the reservoir, with the fluid in good condition. Brake fluid level inspection requires verification between minimum and maximum marks plus condition assessment. Both must be acceptable for proper operation. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

38. C — Brake fluid leakage from the system, or worn brake pads allowing pistons to extend further (increasing volume in the calipers). Low fluid level indicates either external leakage or normal pad wear extending pistons. Pad wear is normal; leakage requires diagnosis. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

39. B — Use only the manufacturer-specified fluid type, fill to the maximum mark, and verify the cap is properly seated. Brake fluid filling requires the manufacturer's fluid type, proper level, and cap seating. Mixing fluid types or improper level affects safety. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

40. D — The ABS hydraulic control unit was not properly bled after the service, or the ABS module needs the scan tool activation during the bleeding. Post-service pedal change with ABS pump motor DTC indicates the HCU was not properly bled. The ABS service must include scan tool activation during bleeding for proper completion. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

41. A — Verify all sensor connections, perform proper bleeding (with HCU activation if specified), clear stored DTCs, and verify operation through a road test. ABS service verification requires comprehensive approach including connections, bleeding, DTC clearing, and road test verification. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

42. B — Verify all sensor signals, perform a road test that exercises the system, and verify proper intervention occurs when conditions warrant. Stability control verification requires sensor signal verification and operational road test. The system must intervene properly during conditions that warrant intervention. *ASE Task Reference: A5 Domain E — Electronic Brake, Traction, and Stability Control Systems. Review subsection 5.5.*

43. C — Inform the customer that the pads are within specification but approaching replacement, and document the wear for the next service interval. Pads at 4 mm with 3 mm minimum are within specification but approaching replacement. Customer information and documentation are appropriate without immediate replacement. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

44. B — Measure pad friction material thickness, rotor thickness, and component condition; record findings; and provide recommendations to the customer based on the manufacturer's specifications. Brake inspection documentation requires comprehensive measurements, recording, and recommendations based on specifications. The customer needs accurate information to make

service decisions. *ASE Task Reference: A5 Domain F — Brake Tools, Fluids, and Service Specifications. Review subsection 5.6.*

45. A — Recommend replacement, since further resurfacing would reduce thickness below minimum and reduce service life. Rotors close to minimum thickness cannot be resurfaced again without going below specification. Recommendation for replacement provides the customer with proper service planning information. *ASE Task Reference: A5 Domain C — Disc Brake Diagnosis and Repair. Review subsection 5.3.*