PRACTICE EXAM 19: ASE L4 SIMULATION (50 QUESTIONS)

1. Two ADAS-equipped vehicles arrive with similar customer complaints — intermittent ACC failure. Before diagnosing either, the most productive approach is:

A. Assuming both vehicles have the same root cause and diagnosing them together

B. Diagnosing each vehicle independently per the specific OEM service information

C. Replacing the forward radar on both vehicles as a precaution during the visit

D. Reprogramming both vehicles with the same firmware regardless of manufacturer

2. Two different vehicles have both had their windshields replaced. The requirement for forward camera calibration after glass service:

A. Depends on the shop's preference rather than any OEM requirement at all

B. Varies based solely on whether the new windshield came from the OEM dealer

C. Applies to both vehicles per virtually every major OEM's position statement

D. Applies only to newer vehicles and never to vehicles older than five years

3. One vehicle uses 77 GHz forward radar while another uses 24 GHz forward radar. The operational implications of the frequency difference include:

A. Different antenna sizes, resolution capabilities, and regulatory considerations

B. Identical operational characteristics with no practical differences between them

C. Only cost differences without any impact on radar detection performance

D. Only visual differences in the modules with no operational impact whatsoever

4. Two vehicles have had rear bumper cover replacements. The corner radar calibration requirement:

A. Never applies to rear corner radars regardless of what service was performed

B. Applies only to one specific vehicle manufacturer that requires the procedure

C. Typically applies to both vehicles per the OEM's calibration trigger specifications

D. Applies only when the replacement bumper is aftermarket rather than OEM unit

5. A technician is comparing two vehicles' private CAN bus architectures. The most significant common characteristic is:

A. Identical baud rates regardless of the manufacturer or vehicle model year

B. Identical network topologies across all manufacturers in the industry today

C. The same number of modules on every private CAN bus across all vehicles

D. Use of 120-ohm terminators paired in parallel to produce 60-ohm bus resistance

6. Two vehicles both have a failed forward camera. The replacement procedure:

A. Follows the general sequence of programming, coding, initialization, and calibration

B. Is identical in every specific detail regardless of the vehicle manufacturer

C. Can be performed using generic aftermarket procedures without OEM information

D. Requires only calibration since modern modules self-program and self-configure

7. One vehicle shows a forward radar range of 160m while another shows 250m. The difference typically reflects:

A. One radar has failed while the other is operating normally during the test

B. Scan tool software errors that require factory reset before further diagnosis

C. Normal variance that occurs randomly between any two similar vehicles

D. Different radar implementations — medium-range versus long-range applications

8. Two vehicles with the same ADAS complaint both have U-codes in history status. The correct diagnostic approach:

A. Treats both vehicles identically using the same diagnostic procedure throughout

B. Investigates each vehicle per the specific OEM service information for that vehicle

C. Replaces the affected modules on both vehicles without further investigation

D. Reprograms both vehicles with current firmware without any diagnostic work

9. A technician measures CAN bus resistance on two different vehicles and both read 60 ohms. The interpretation is:

A. Both vehicles have healthy bus termination consistent with the standard architecture

B. Both vehicles have failed bus architectures requiring complete replacement now

C. The measurement reveals nothing useful about either vehicle's actual condition

D. Only one vehicle has a healthy bus — the measurement is coincidental for the other

10. Two ADAS vehicles arrive with similar symptoms that only occur in cold weather. The diagnostic focus should consider:

A. Replacing the forward camera on both vehicles as a cold-weather precaution

B. Reprogramming both vehicles with cold-weather-specific firmware versions

C. Normal behavior on both vehicles that should not require investigation at all

D. Camera heater function, connection integrity, and voltage stability in cold conditions

11. A technician is calibrating two different vehicles. The precondition for shop floor level is:

A. Not applicable to ADAS calibration on any vehicle regardless of manufacturer

B. Specific to one manufacturer only while other manufacturers ignore floor slope

C. Common to both vehicles, typically requiring floor slope within 1 degree maximum

D. Only applicable to dynamic calibration, not to static calibration procedures ever

12. Two vehicles have received battery disconnection during unrelated service. The ADAS relearn requirement:

A. Applies to only one of the vehicles since relearn is vehicle-specific always

B. Typically applies to both vehicles per OEM service information for each one

C. Never applies to either vehicle because ADAS systems self-initialize automatically

D. Applies only if the customer specifically requests the relearn procedure be done

13. Two vehicles have had their front bumper covers repainted with non-OEM paint. The potential impact on forward radar:

A. Is specific to only one manufacturer and does not affect the other at all

B. Is never significant and customers should not be informed of any concerns

C. Only affects the paint appearance without any impact on radar operation

D. May attenuate radar signal on both vehicles regardless of the manufacturer

14. A technician is evaluating two different scan tools for use in the shop. The most important comparison criterion is:

A. Only the initial cost of purchasing each scan tool for the shop

B. Vehicle coverage and bidirectional capability across the relevant brands

C. Only the brand name of the scan tool manufacturer regardless of function

D. Only the physical weight and portability of the scan tool during service

15. Two vehicles both have intermittent communication codes for the same module. The diagnostic approach:

A. Should investigate each vehicle's specific supply, ground, and CAN pathway

B. Should assume the fault is identical on both vehicles and treat them the same

C. Should replace the affected module on both vehicles without any investigation

D. Should reprogram both vehicles with current firmware regardless of the cause

16. Two vehicles have ADAS warning lights illuminated. The customer conversations should:

A. Be identical regardless of the specific vehicles or warning lights involved

B. Focus only on cost without any discussion of the underlying warning issue

C. Address the specific cause on each vehicle per documented diagnostic findings

D. Dismiss the warnings on both vehicles as not significant to either customer

17. A technician is reviewing OEM position statements for two different manufacturers. The most accurate observation is:

A. All OEM position statements are identical and can be substituted for each other

B. Position statements only exist for one manufacturer — others have no guidance

C. Position statements are optional guidance that can be disregarded entirely

D. Position statements vary by manufacturer and must be reviewed for each brand

18. Two vehicles with forward cameras both have dirty windshields in the camera view area. The impact on camera operation:

A. Affects both vehicles similarly — camera view obstruction impairs feature function

B. Affects only one of the vehicles because sensitivity varies between manufacturers

C. Does not affect either vehicle because cameras compensate for windshield dirt

D. Only affects vehicles with specific camera models from specific manufacturers

19. A technician is comparing surround view systems on two vehicles. A common characteristic is:

A. Identical camera counts on every surround view system regardless of manufacturer

B. The same exact camera angle of view across all surround view system designs

C. Use of single narrow-angle cameras rather than wide-angle cameras universally

D. Use of multiple wide-angle cameras whose outputs are stitched into one image

20. Two vehicles have had their exterior mirror housings replaced. The surround view calibration requirement:

A. Typically applies to both vehicles if the replaced mirror contained a camera

B. Applies to only one of the vehicles regardless of whether cameras are involved

C. Never applies because surround view cameras do not require any calibration

D. Applies only to vehicles less than 3 years old at the time of the service visit

21. A technician compares two vehicles' forward camera mounting. Both are:

A. Located on the dashboard pointing outward through the vehicle's windshield

B. Located on the front grille behind a radar-transparent plastic cover only

C. Located on the A-pillar trim panel on the driver side of the cabin interior

D. Typically mounted to the windshield near the interior rearview mirror

22. Two vehicles both have driver monitoring systems. A common characteristic is:

A. Use of visible-spectrum imaging with bright LED illumination of the driver

B. Operation only during daytime hours with no nighttime capability at all

C. Use of near-infrared imaging with invisible infrared illumination of the driver

D. Use of thermal imaging based on heat radiated by the driver's body directly

23. A customer with two ADAS-equipped vehicles asks whether they need different calibration equipment. The correct response is:

A. Different equipment is required for every specific vehicle the shop services

B. Calibration equipment covers multiple vehicles, though procedures vary per OEM

C. Only one vehicle can be calibrated with the same equipment regardless of brand

D. The same equipment and identical procedures apply to every ADAS vehicle made

24. Two vehicles have had their forward cameras cleaned with lens cleaner during service. The potential consequence:

A. No impact on either vehicle since lens cleaner is acceptable for all cameras

B. Impact on only one vehicle while the other's camera tolerates lens cleaner fine

C. Potential lens coating damage on both since many OEMs prohibit lens cleaning

D. Improved camera performance on both vehicles from the cleaning procedure now

25. A technician is comparing lane keep assistance behavior on two vehicles. Both systems:

A. Operate identically with no variation between manufacturers under any conditions

B. Require clear lane markings and provide active steering via the EPS module

C. Operate only at speeds below 25 mph on city streets regardless of the vehicle

D. Use ultrasonic sensors instead of cameras for lane detection on every vehicle

26. Two different vehicles both experience forward camera failures after hail damage. The evaluation approach:

A. Assumes both failures are identical and treats them the same without inspection

B. Replaces the forward camera on both vehicles without any further investigation

C. Inspects each vehicle's specific damage and calibration status before deciding action

D. Dismisses the hail-related concerns as unrelated to ADAS function on either vehicle

27. Two vehicles have had their ADAS Central Modules replaced. The required calibration:

A. Never applies to ADAS Central Module replacement on any vehicle at any time

B. Applies only to one of the vehicles since the other has a different architecture

C. Is optional for both vehicles at the technician's individual discretion always

D. Typically requires calibration of dependent sensors per OEM service information

28. Two vehicles have different forward radar detection ranges — 160m versus 250m. The practical implication is:

A. Different ACC and AEB operational envelopes affecting the feature's capability

B. Identical ACC and AEB operation despite the different detection ranges at all

C. Complete failure of the shorter-range radar requiring immediate replacement

D. Complete failure of the longer-range radar requiring immediate replacement

29. A technician is diagnosing radar-related complaints on two different vehicles. The shared diagnostic principle is:

A. Every radar requires the same specific calibration regardless of the vehicle

B. Every radar module uses identical terminators and communication protocols

C. Scan tool data review, physical inspection, and precondition verification apply

D. Radar replacement is the only correct response to any radar-related complaint

30. Two vehicles with blind spot warning systems show different alert indicator styles. The underlying system:

A. Operates identically despite the visual difference between dashboard displays

B. Uses rear corner radar sensing with possible visual and audible alerts varying by OEM

C. Uses ultrasonic sensors for blind spot detection on both vehicles similarly

D. Uses the forward camera exclusively for blind spot monitoring on both vehicles

31. A technician is comparing two forward radar static calibration procedures. Both require:

A. Identical target placement distances that never vary between any manufacturers

B. Dynamic calibration only — static calibration is never required for any vehicle

C. Target placement per OEM specification with verified preconditions before starting

D. No preconditions since the scan tool handles every precondition automatically

32. Two vehicles have had their front bumper covers replaced. The forward radar calibration requirement:

A. Applies only to one vehicle because only one has a radar behind the bumper

B. Never applies to either vehicle regardless of whether the cover was replaced

C. Applies only when aftermarket covers are used instead of OEM replacement covers

D. Typically applies to both vehicles per OEM position statements for each brand

33. Two vehicles have had ADAS sensor calibrations silently miscalibrated. The common root cause:

A. The calibration was performed too quickly on both vehicles during the service

B. Unmet preconditions during the procedures — floor slope, loading, or placement

C. Complete internal failure of each sensor module requiring replacement now

D. Scan tool software errors on both vehicles requiring factory reset before retesting

34. A technician is evaluating whether to perform calibration on two different vehicles brought in for the same ADAS repair. The shop's approach:

A. Verifies OEM trigger requirements for each specific vehicle before calibrating

B. Calibrates every vehicle regardless of whether calibration is actually required

C. Refuses to calibrate either vehicle since calibration is not really necessary

D. Calibrates only the newer of the two vehicles because older ones are different

35. Two vehicles have AEB systems. A shared operational limitation is:

A. AEB never produces false activations under any driving condition on either vehicle

B. AEB may occasionally activate on non-threats like overhead signs or guardrails

C. AEB operates at all speeds above 5 mph identically on every vehicle made today

D. AEB is completely disabled on both vehicles during any real-world driving conditions

36. Two vehicles both require post-repair scans after ADAS service. The shared purpose is:

A. Verifying codes cleared and identifying any new codes introduced during service

B. Automatically restoring factory default settings on both vehicles at the same time

C. Preventing the vehicles from needing any future ADAS service or maintenance

D. Reducing the shop's overall labor hours on ADAS repairs by eliminating road testing

37. A technician compares two ADAS vehicles' camera heater specifications. On the composite vehicle, the heater activates at:

A. A temperature above 70°F in all ambient conditions during any drive session

B. Approximately 50°F or 10°C or colder per the composite vehicle reference details

C. Only when the vehicle's engine is running above 3,000 RPM sustained for any drive

D. Only during direct rainfall detected by the vehicle's rain sensor on the windshield

38. Two vehicles have parking sensor systems. A common characteristic is:

A. Use of 77 GHz radar for parking detection on both vehicles equally well

B. Operation through a cellular network connection on both of the vehicles

C. Use of ultrasonic transducers above the range of normal human hearing

D. Operation through visible-spectrum cameras for both vehicles in every condition

39. Two different vehicles both fail a forward camera dynamic calibration. The shared investigation considers:

A. Immediate camera replacement on both vehicles as a first response action

B. Driving conditions during the calibrations — speed, markings, weather, duration

C. Reprogramming both ADAS Central Modules with current firmware releases first

D. Normal operation that does not warrant any investigation from the technician

40. A technician is working with two vehicles that both have silent miscalibration symptoms. The shared remediation is:

A. Immediate replacement of the affected sensor modules on both vehicles right away

B. Normal operation that should not require any additional work from the technician

C. Recalibration on a verified level surface with preconditions correctly met on each

D. Reprogramming both ADAS Central Modules with the most current firmware available

41. Two vehicles with different ADAS architectures both use CAN bus communication. A common troubleshooting tool is:

A. A digital storage oscilloscope to observe waveform quality on each bus

B. Only an OEM-specific scan tool available exclusively from the original dealer

C. Only replacement modules to eliminate each bus fault by direct substitution

D. Only visual inspection without any electrical or scan tool testing involved

42. Two ADAS vehicles have had battery disconnection. The common action required:

A. Replacing both batteries before reconnecting them to the vehicle systems

B. Reprogramming every module on both vehicles with current firmware regardless

C. Checking OEM procedures for relearn requirements after battery disconnection

D. Performing static calibrations on every ADAS sensor on both of the vehicles

43. A technician is comparing two vehicles' forward radar modules. Both typically:

A. Use the 2.4 GHz band shared with consumer Wi-Fi equipment in the area

B. Use the 76 to 81 GHz band commonly called 77 GHz automotive radar

C. Use the 5.9 GHz band reserved for vehicle-to-vehicle communication use

D. Use the 24 GHz band with limited remaining regulatory allocation for any use

44. Two vehicles have had their ADAS sensor calibrations completed with scan tool success. Verification before delivery requires:

A. Delivering both vehicles immediately since scan tool success is sufficient always

B. Only a scan of each vehicle without any operational road testing involved

C. Only a road test without any scan verification since driving verifies the system

D. Both scan verification and operational road test of the repaired features working

45. A technician is working on two vehicles with different ADAS architectures. The shared principle is:

A. OEM-specific procedures and information apply to each vehicle during service

B. Generic aftermarket procedures work equally well on both vehicles universally

C. One vehicle's procedure can always be used on the other without any changes

D. Ignoring OEM guidance produces better results on both vehicles regardless

46. Two vehicles have parking assist complaints. Both require investigation of:

A. The cellular network connection on the vehicles during the complaint event

B. The forward camera view during the parking assist activation on both vehicles

C. The forward radar beam path during the parking assist activation testing

D. The ultrasonic sensors, their transducer faces, and their communication pathway

47. Two vehicles have had rear bumper cover repaints. The potential impact on ultrasonic sensors:

A. No impact on either vehicle because paint does not affect sensor operation

B. Paint on transducer faces may attenuate signals on both vehicles similarly

C. Impact on only one vehicle — the other is immune to paint on sensors

D. Improved sensor sealing on both vehicles from the paint application process

48. A technician finds one failed ultrasonic sensor on each of two vehicles. The shared response is:

A. Replacing every ultrasonic sensor on both vehicles as a precaution now

B. Complete reprogramming of both vehicles' Ultrasonic Control Modules first

C. Individual sensor replacement on each vehicle followed by scan tool verification

D. Normal operation that does not require any action from the technician during service

49. Two vehicles experience intermittent parking sensor issues in cold weather. The shared likely cause:

A. Ice or snow accumulation on transducer faces melting before reaching the shop

B. Complete ultrasonic system failure requiring replacement on both of the vehicles

C. Reprogramming requirement for cold operation on both vehicles during winter

D. Normal cold-weather operation that customers should accept during winter months

50. Two vehicles both have parking assist systems that chime continuously in empty lots. The shared investigation is:

A. Replacing every ultrasonic sensor on both vehicles as a starting point for service

B. Reprogramming both Ultrasonic Control Modules with the current firmware release

C. Normal behavior that should not require any investigation from the technician

D. Scan tool data review of individual sensor readings to identify the specific issue

PRACTICE EXAM 19: ANSWER KEY AND EXPLANATIONS

1. B — Diagnosing each vehicle independently per the specific OEM service information is the correct approach when two vehicles present similar complaints. OEM-specific procedures, architectures, and known issues vary between manufacturers, and assuming shared root causes without investigation leads to misdiagnosis and unnecessary parts replacement.

2. C — Forward camera calibration after windshield replacement applies to both vehicles per virtually every major OEM's position statement. The camera bracket is bonded to the windshield regardless of manufacturer, so glass service disturbs the camera's mounting position on any ADAS-equipped vehicle that has a windshield-mounted forward camera.

3. A — Different radar frequencies produce different antenna sizes, resolution capabilities, and regulatory considerations. 77 GHz radar uses smaller antennas and provides finer resolution than 24 GHz radar, which is why the industry has shifted to 77 GHz for most automotive applications while 24 GHz has limited remaining allocation.

4. C — Rear bumper cover replacement typically triggers corner radar calibration per the OEM's calibration trigger specifications on both vehicles. The bumper cover work physically disturbs the corner radar mounting environment, and OEM position statements across manufacturers typically require subsequent calibration to restore correct operation.

5. D — Use of 120-ohm terminators paired in parallel to produce 60-ohm bus resistance is the standard CAN architecture across manufacturers. This is an industry-wide specification for CAN bus implementation, and the 60-ohm measurement is the universal diagnostic baseline for healthy CAN bus resistance regardless of the vehicle.

6. A — Forward camera replacement follows the general sequence of programming, coding, initialization, and calibration across manufacturers. The specific steps and procedures within each phase vary by OEM, but the overall workflow structure is consistent — specific details always require OEM-specific service information.

7. D — Different radar detection ranges (160m versus 250m) reflect different radar implementations — medium-range versus long-range applications. Luxury-segment vehicles often use longer-range radar to support high-speed ACC, while typical passenger vehicles use medium-range radar adequate for highway speeds and AEB.

8. B — Investigating each vehicle per the specific OEM service information is the correct approach for both vehicles with U-codes. OEM-specific procedures for U-code diagnosis, expected bus

architectures, and manufacturer-specific symptoms vary between vehicles, and common diagnostic procedures do not produce correct results.

9. A — Both vehicles showing 60-ohm CAN bus resistance indicates healthy bus termination consistent with the standard architecture. The 60-ohm measurement is the universal diagnostic baseline for CAN bus health, and this reading on both vehicles is meaningful and consistent evidence of proper bus termination.

10. D — Cold-weather ADAS symptoms on two vehicles warrant investigation of camera heater function, connection integrity, and voltage stability in cold conditions. These factors are common causes of cold-weather ADAS failures across manufacturers, and they are addressable through diagnosis rather than wholesale camera replacement or reprogramming.

11. C — The precondition for shop floor level is common to both vehicles, typically requiring floor slope within 1 degree maximum. This is an industry-wide calibration precondition that applies to ADAS calibration across manufacturers, reflecting the geometric accuracy required for correct sensor alignment.

12. B — ADAS relearn requirements typically apply to both vehicles per OEM service information after battery disconnection. The specific relearn procedures vary by OEM, but the general need for post-battery-disconnection relearn is a common characteristic across manufacturers, and OEM information should be consulted for each vehicle.

13. D — Non-OEM paint in the radar zone may attenuate radar signal on both vehicles regardless of the manufacturer. The 77 GHz band requires specific transparency characteristics, and non-OEM paint chemistry may not meet these requirements on any vehicle — the issue is manufacturer-agnostic.

14. B — The most important comparison criterion for scan tools is vehicle coverage and bidirectional capability across the relevant brands. A shop needs tools that cover the vehicles it services with the diagnostic and output functions needed for professional work — cost, brand name, and portability are secondary considerations.

15. A — Each vehicle's specific supply, ground, and CAN pathway should be investigated for intermittent communication codes. Even when symptoms are similar, each vehicle's specific architecture, wiring, and fault patterns differ, and proper diagnosis requires vehicle-specific investigation rather than assumed-common root causes.

16. C — Customer conversations about ADAS warning lights should address the specific cause on each vehicle per documented diagnostic findings. Each vehicle's situation is distinct, and professional customer communication tailors the conversation to the actual findings rather than using generic responses that may not apply.

17. D — OEM position statements vary by manufacturer and must be reviewed for each brand. Each OEM publishes its own position statements with specific requirements for ADAS service, and

shops must consult the relevant OEM's guidance for each vehicle rather than assuming universal applicability.

18. A — Dirty windshields in the camera view area affect both vehicles similarly — camera view obstruction impairs feature function regardless of manufacturer. Camera-based ADAS relies on clear imaging, and contamination in the sensing area degrades performance on any vehicle with this architecture.

19. D — Surround view systems commonly use multiple wide-angle cameras whose outputs are stitched into one image. This is a consistent design pattern across manufacturers — camera count may vary, but the wide-angle, image-stitching approach is universal for surround view implementations.

20. A — Surround view calibration typically applies to both vehicles if the replaced mirror contained a camera. Exterior mirror replacement disturbs the camera's mounting position, and the Surround View Module's image stitching depends on accurate camera calibration that must be restored after physical changes.

21. D — Forward cameras on both vehicles are typically mounted to the windshield near the interior rearview mirror. This is the near-universal mounting location for forward ADAS cameras, reflecting the optimal view position and consistent vehicle architecture across most manufacturers.

22. C — Both driver monitoring systems typically use near-infrared imaging with invisible infrared illumination of the driver. This approach allows observation in darkness without visible glare that would distract the driver, and it has become the industry standard for driver monitoring implementations.

23. B — Calibration equipment covers multiple vehicles, though specific procedures vary per OEM. A well-chosen calibration kit and scan tool combination supports many vehicles, while the specific procedures, targets, and reference points vary by manufacturer — equipment coverage and procedure specificity are separate considerations.

24. C — Potential lens coating damage on both vehicles since many OEMs prohibit lens cleaning. Forward camera lens coatings are delicate and can be damaged by cleaning products, and many OEM service procedures specifically prohibit cleaning the camera lens — the composite vehicle reference explicitly requires replacement rather than cleaning.

25. B — Both lane keep assistance systems require clear lane markings and provide active steering via the EPS module. This is a shared architecture across LKA implementations — the camera detects lane position, the ADAS Central Module determines the need for correction, and the EPS module provides the active steering input.

26. C — Inspecting each vehicle's specific damage and calibration status before deciding action is the correct approach after hail damage. Hail damage can affect cameras in varying ways, and each

vehicle may require different responses based on the specific damage, calibration status, and OEM requirements.

27. D — ADAS Central Module replacement typically requires calibration of dependent sensors per OEM service information. The ADAS Central Module coordinates sensor inputs, and its replacement often triggers calibration requirements for the sensors that feed it data, ensuring the new module has correct references for its decision-making.

28. A — Different forward radar detection ranges produce different ACC and AEB operational envelopes affecting the feature's capability. A 160m-range radar has a shorter effective zone than a 250m-range radar, which changes the feature's ability to acquire targets at highway speeds — this is a design difference, not a fault in either implementation.

29. C — Scan tool data review, physical inspection, and precondition verification apply as shared diagnostic principles for radar-related complaints. These fundamental diagnostic approaches apply across manufacturers and specific radar implementations, providing a consistent framework for productive investigation regardless of vehicle differences.

30. B — Both vehicles' blind spot warning uses rear corner radar sensing with possible visual and audible alerts varying by OEM. The underlying architecture is consistent — corner radars detect adjacent-lane vehicles — while the alert implementation details (visual indicators, chimes, vibration) vary by manufacturer preference.

31. C — Both static calibration procedures require target placement per OEM specification with verified preconditions before starting. This is a shared principle across manufacturers — target placement accuracy and precondition verification are universal requirements for valid calibration regardless of the specific vehicle's procedure details.

32. D — Forward radar calibration typically applies to both vehicles per OEM position statements after front bumper cover replacement. Both vehicles have forward radar behind the bumper cover area, and bumper service disturbs the mounting environment for both, triggering calibration requirements per their respective OEMs.

33. B — The common root cause of silent miscalibration on both vehicles is unmet preconditions during the procedures — floor slope, loading, or placement. This is a universal issue across manufacturers, and it's why precondition verification is the single most important practice in ADAS calibration regardless of the specific vehicle being serviced.

34. A — Verifying OEM trigger requirements for each specific vehicle before calibrating is the correct professional approach. Not every ADAS repair triggers calibration requirements, and OEM-specific documentation identifies exactly which repairs require subsequent calibration on which vehicles — unnecessary calibration is wasted labor.

35. B — AEB may occasionally activate on non-threats like overhead signs or guardrails on both vehicles. This is a documented limitation of current radar-based AEB technology across

manufacturers, and even correctly calibrated systems can produce these occasional false activations in challenging environments.

36. A — The shared purpose of post-repair scans on both vehicles is verifying codes cleared and identifying any new codes introduced during service. This is foundational professional practice across vehicles — the scan comparison documents repair completion and captures any unintended new faults from the service work.

37. B — The composite vehicle's forward camera heater activates at approximately 50°F or 10°C or colder per the reference. This specific value is reference-sourced for the composite vehicle used in the ASE L4 exam and is commonly tested. Real-world OEMs may use different thresholds, but the exam uses the composite vehicle reference.

38. C — Both vehicles use ultrasonic transducers above the range of normal human hearing — typically 40 to 50 kHz. This is the common technology base for parking sensors across manufacturers, providing short-range distance detection without the disturbance that audible-frequency pulses would create.

39. B — The shared investigation for dynamic calibration failures on both vehicles considers driving conditions during the calibrations — speed, markings, weather, and duration. Dynamic calibration failures typically trace to conditions outside the procedure's requirements, and this investigation applies across vehicles regardless of manufacturer.

40. C — The shared remediation for silent miscalibration on both vehicles is recalibration on a verified level surface with preconditions correctly met. The root cause of silent miscalibration is the same across manufacturers — unmet preconditions — and the remedy is consistent: correct recalibration with verified conditions.

41. A — A digital storage oscilloscope is a common troubleshooting tool for observing CAN bus waveform quality on both vehicles. This tool is manufacturer-agnostic and reveals signal characteristics that resistance measurements alone cannot show, making it fundamental for CAN bus diagnosis across any ADAS architecture.

42. C — Checking OEM procedures for relearn requirements after battery disconnection applies to both vehicles. Battery disconnection triggers similar relearn needs across manufacturers, and consulting each vehicle's specific OEM information for the required procedures is the correct professional approach regardless of similarities between the vehicles.

43. B — Both forward radar modules typically use the 76 to 81 GHz band, commonly called 77 GHz automotive radar. This is the current industry standard across manufacturers, providing the resolution and antenna size benefits that make 77 GHz the dominant automotive radar frequency worldwide.

44. D — Both scan verification and operational road test of the repaired features are required for both vehicles. Complete professional verification requires both — scan tool verification confirms the

software state while operational testing confirms real-world function, and neither alone is sufficient for delivery.

45. A — OEM-specific procedures and information apply to each vehicle during service. Ignoring OEM guidance or using generic procedures introduces risk of incomplete or incorrect service, and following manufacturer-specific information is the universal professional standard for ADAS work.

46. D — Both parking assist complaints require investigation of the ultrasonic sensors, their transducer faces, and their communication pathway. This is a shared diagnostic focus across manufacturers — parking assist consistently uses ultrasonic technology, and the same investigation framework applies to both vehicles.

47. B — Paint on transducer faces may attenuate signals on both vehicles similarly after rear bumper cover repaints. The physics of ultrasonic signal attenuation through paint is manufacturer-independent, and both vehicles face the same potential issue when paint has been applied over the sensor faces.

48. C — Individual sensor replacement on each vehicle followed by scan tool verification is the shared response to a single failed ultrasonic sensor. This targeted approach applies across manufacturers — replace the specific failed sensor and verify operation, rather than wholesale replacement or reprogramming that does not address the actual fault.

49. A — Ice or snow accumulation on transducer faces melting before reaching the shop is the shared likely cause of cold-weather intermittent parking sensor issues. This weather-correlated pattern is a documented environmental interaction that affects ultrasonic sensors across manufacturers in similar ways.

50. D — The shared investigation for continuous chiming in empty lots on both vehicles is scan tool data review of individual sensor readings to identify the specific issue. This targeted approach identifies which specific sensors are reporting abnormal values regardless of the manufacturer, leading to focused repair rather than speculative replacement.