PRACTICE EXAM 24: ASE A4 SIMULATION (40 QUESTIONS)

STEERING SYSTEMS DIAGNOSIS AND REPAIR (Questions 1–12)

1. A customer brings in a 2018 Honda Accord with a power steering whining complaint. The fluid reservoir is at minimum level. The customer says "my friend just added some generic power steering fluid last month." What should the technician do FIRST?

A. Top off the fluid with Honda-specified PSF and return the vehicle to the customer with a recommendation

B. Flush the system with Honda-specified PSF and inspect for seal damage that may require rack replacement

C. Replace the power steering pump because generic fluid has permanently damaged the pump internals now

D. Replace the rack and pinion assembly because generic fluid has permanently damaged the seals now

2. A customer requests "the cheapest fix" for a steering damper leak. The technician recommends replacement. The customer asks if they can just add fluid. How should the technician respond?

A. Add steering damper fluid through the fill port as a temporary fix until the next service interval visit today

B. Agree with the customer — a fluid top-off will address the leaking damper temporarily during this service

C. Monitor the leak at next service interval — small leaks do not typically affect steering damper function now

D. Explain that steering dampers are sealed units that cannot be refilled — replacement is the only repair

3. A 2021 vehicle has an illuminated SRS warning light. The customer says "it's been on for a year and nothing happens." Which response is MOST appropriate?

A. Explain that the SRS warning indicates the airbag may not deploy in a crash — immediate diagnosis is needed

B. Explain that the warning will likely go off after a few more drive cycles — monitor during the next service

C. Reset the warning with a scan tool without diagnosing the underlying fault — a common service shortcut today

D. Explain the warning is a minor issue that can be addressed at the next service interval during routine maintenance

4. A customer is quoted $1,200 for a rack and pinion replacement due to internal leakage. The customer asks if the leak can be repaired with sealant. The technician should:

A. Add sealant to the power steering reservoir and return the vehicle to the customer with warning about potential issues

B. Agree to apply sealant as a temporary fix while the customer saves money for the full repair service today

C. Explain that sealants cannot repair internal rack leaks — the rack must be replaced or internal damage worsens

D. Quote a lower-cost alternative for reconditioning the existing rack with local repair shops for this service

5. A 2022 vehicle has had its battery replaced at an auto parts store. The customer returns to the dealership complaining of EPS warning light after the battery service. What is the correct customer service response?

A. Explain that the EPS warning light indicates module damage from the battery swap — new module is needed

B. Explain that the battery service at the auto parts store caused permanent damage to the steering module

C. Explain that the auto parts store did not perform the required SAS calibration after the battery replacement today

D. Explain that the EPS requires an initialization procedure after battery service — this is a typical post-service step

6. A clockspring replacement quote is $800 for parts and labor. The customer asks if they can drive with the SRS warning light on for a few weeks until they can afford the repair. How should the technician respond?

A. Agree — the customer can drive safely with the SRS warning light on for several weeks during regular driving

B. Explain that driving with the SRS warning indicates the airbag may not deploy — not safe for continued driving

C. Reset the warning light with a scan tool so the customer can drive without the warning during the interim

D. Recommend temporary deactivation of the SRS system until the clockspring can be replaced at a later visit

7. A customer complains that their vehicle steering has become "heavy" over the past week. The vehicle has rack-mounted EPS and 95,000 miles. The customer asks if routine fluid service will help. How should the technician respond?

A. Explain that EPS systems have no fluid requiring service — the heavy feel indicates a different issue requiring diagnosis

B. Recommend a power steering fluid flush as the first step in resolving the heavy steering complaint during service

C. Recommend replacing the rack and pinion assembly preemptively because EPS components typically fail at this mileage today

D. Recommend periodic EPS calibration service as part of routine maintenance for steering systems at high mileage today

8. A recirculating ball gearbox rebuild is quoted at $650. A complete gearbox replacement is quoted at $1,200. The customer asks about the difference. What is the correct explanation?

A. Gearbox rebuilds always fail within 6 months — a complete replacement is the only reliable repair option during service

B. Gearbox rebuilds are available only for specific vehicles — the replacement is required for all other applications today

C. Rebuilds address internal seals and worn components — the replacement provides a new unit with full warranty options

D. Rebuilds are always preferred over replacement — they use the original gearbox housing with new internals during service

9. A customer reports their vehicle's EPS has reduced assist intermittently during cold weather. The battery tests good at room temperature. The customer asks if the battery is the cause. What is the MOST likely explanation?

A. The battery is the probable cause — it cannot maintain voltage under cold conditions despite testing good at room temperature

B. The EPS module has failed and is the cause of the intermittent reduced assist during the cold weather operation

C. The steering angle sensor has drifted and is affecting the EPS operation during the cold weather conditions today

D. The EPS motor requires replacement because it cannot function in cold temperatures below freezing during service use

10. A steering hose has been replaced. The customer is driving a fleet vehicle and asks how long the repair should last. What is the technician's best response?

A. The hose should last 3–5 years under normal driving conditions — fleet vehicles see higher wear during service life

B. The hose should last the lifetime of the vehicle — modern power steering hoses are designed for extended service life

C. The hose should last 1–2 years before requiring replacement — fleet vehicles see severe conditions during service

D. The hose should last 10–15 years — modern hoses have extended durability beyond the original manufacturer hoses today

11. A customer reports their vehicle's steering wheel is off-center by about 10°. Alignment was just performed at a different shop. The customer asks if this is normal. How should the technician respond?

A. Explain that 10° off-center is acceptable for modern vehicles — it is within specification tolerance during service today

B. Agree — the steering wheel will naturally center itself during normal driving over the next few weeks of use

C. Explain that no manufacturer accepts a 10° off-center steering wheel as correct alignment — return for correction

D. Explain that a 10° off-center steering wheel indicates the previous alignment was incomplete — requires re-alignment

12. A customer has a loose steering wheel retaining nut. The customer asks if they can just tighten it with a wrench. What should the technician say?

A. Explain that steering wheel retaining nuts must be torqued with a calibrated torque wrench to specification value

B. Recommend the customer tighten it hard with a regular wrench — this is common for steering wheel retention today

C. Explain that a loose retaining nut is a minor issue that can be addressed at the next service interval during visit

D. Recommend the customer drive with the loose nut until the next scheduled service visit for a proper repair today

SUSPENSION SYSTEMS DIAGNOSIS AND REPAIR (Questions 13–24)

13. A customer requests only one strut be replaced — not both — to save money. The technician should:

A. Agree to replace only one strut as requested — it is the customer's choice to make regarding the service today

B. Refuse to replace the strut at all unless both are replaced as a matched pair during the service visit today

C. Explain that struts should be replaced in pairs on the same axle to maintain matched damping characteristics

D. Replace only one strut but charge the customer the same price as replacing both for warranty reasons during service

14. A coil spring is cracked on one side of the vehicle. The opposite side spring appears intact. The customer asks if only the cracked spring needs replacement. What is the correct response?

A. Explain that coil springs should be replaced in pairs on the same axle to maintain matched ride height and spring rate

B. Replace only the cracked spring — the opposite side spring is within specification during the service today

C. Recommend replacement of all four springs on the vehicle to maintain consistent ride height during the service

D. Recommend replacement of only the cracked spring with a warranty that covers the opposite spring during service

15. An air suspension vehicle has one sagged corner. The compressor runs for 8 minutes on startup to restore height. The customer asks about the cause and cost. What is the correct diagnosis approach?

A. Replace the compressor immediately — a running compressor for 8 minutes indicates compressor failure is imminent today

B. Inspect the air spring and connections at the affected corner for slow leak — the extended compressor time indicates a leak

C. Replace all four air springs preemptively because air suspension components fail simultaneously during normal service

D. Recommend fluid service on the air suspension system to extend the service life during the maintenance interval today

16. A pickup truck customer requests the cheapest leaf spring repair for a broken main leaf. The technician should:

A. Grind out the crack and weld the spring — a common low-cost repair for leaf springs during service today

B. Replace only the broken main leaf — the other leaves can remain in service during the normal operation today

C. Offer the customer a used leaf spring from a salvage yard as the lowest-cost alternative during this service today

D. Explain that a cracked main leaf requires complete leaf spring pack replacement — no partial repair is acceptable

17. A stabilizer bar end link is worn on one side. The customer asks if only the failed side needs replacement. What is the correct response?

A. Recommend replacing only the failed side — the opposite side is within acceptable service limits during visit today

B. Recommend replacing the complete stabilizer bar assembly to address all potential issues at once during the service

C. Explain that end links should be replaced in pairs — they wear at similar rates and the opposite is near failure

D. Recommend replacement of all four end links on the vehicle to maintain consistent service life during the visit today

18. A 2020 SUV with air suspension has had one air spring replaced. The customer complains that the ride is different from before the replacement. What is the MOST likely explanation?

A. The air suspension system requires calibration after any air spring replacement — the system has not yet been calibrated

B. The new air spring is defective and produces a different ride quality compared to the original during service today

C. The ride change is expected and customer should drive for 500 miles before evaluating the repair during service

D. The air suspension control module requires replacement to restore the original ride quality during the service today

19. A ball joint replacement was quoted at $400 per side. The customer has both ball joints showing wear indicators at the limit. The customer requests only one side be replaced. What should the technician recommend?

A. Replace only the side requested — the other side may last several more years during normal service use today

B. Explain that both ball joints should be replaced together — they wear at similar rates and the other is near failure

C. Refuse the service entirely unless both sides are replaced as a matched pair during the service visit today

D. Replace both sides but only charge the customer for one to maintain good customer service during the visit today

20. A customer requests only a shock absorber replacement — not a strut replacement — to save money on a MacPherson strut equipped vehicle. The technician should:

A. Agree — a shock absorber can be installed in place of a strut on any MacPherson strut vehicle during service today

B. Recommend replacing only the shock body with the strut body retained to save cost during the service visit today

C. Refuse the service entirely unless the full strut replacement is performed during the service visit during visit today

D. Explain that MacPherson strut vehicles require complete strut replacement — shock absorbers are not interchangeable

21. A torsion bar replacement is recommended. The customer asks if both bars need replacement. What is the correct response?

A. Recommend replacing only the affected side — the other side is within specification during normal service today

B. Recommend replacing all four bars on the vehicle to maintain consistent service life during the service today

C. Explain that torsion bars should be replaced in pairs on the same axle to maintain balanced spring rates

D. Recommend replacement of the torsion bar and installation of aftermarket coil-over conversion during this service

22. An adaptive damping fault code has been diagnosed. The customer asks if the vehicle can drive without the repair. What is the correct response?

A. Explain that the vehicle can drive normally — the damping will default to a fixed mid-range setting during driving

B. Explain that the damping has defaulted to a safety mode but the vehicle should be repaired at the next service interval

C. Refuse to release the vehicle to the customer — adaptive damping faults make the vehicle unsafe during any driving

D. Recommend immediate damper replacement — adaptive damping faults cannot be deferred during any service visit

23. A customer asks about the maintenance interval for a sealed wheel bearing. What is the correct response?

A. Sealed wheel bearings require fluid service every 60,000 miles as part of routine maintenance during visit today

B. Sealed wheel bearings require lubrication service every 30,000 miles as part of routine maintenance during visit today

C. Sealed wheel bearings require torque verification at every alignment service visit during routine maintenance today

D. Sealed wheel bearings are maintenance-free — no scheduled service is required during the vehicle's normal service life

24. A vehicle's suspension bushings show age-related cracking but no obvious failure. The customer asks if they need replacement. What is the correct response?

A. Recommend replacement because cracked bushings allow dynamic alignment shift even before visible failure occurs

B. Recommend monitoring at the next service interval — cracked bushings are normal for aged vehicles during service

C. Recommend replacement of all suspension bushings preemptively at 100,000 miles as part of routine maintenance

D. Recommend no action — cracked bushings are cosmetic and do not affect vehicle function during normal driving today

WHEEL ALIGNMENT DIAGNOSIS, ADJUSTMENT, AND REPAIR (Questions 25–35)

25. A customer requests an alignment check without any adjustments. The alignment printout shows all angles within specification. The customer asks about what was included in the service. What is the correct explanation?

A. The alignment check included a full wheel alignment with adjustments performed at the technician's discretion during service

B. The alignment check did not include a road test — the customer can road test the vehicle after receiving the printout today

C. The alignment check included measurement of alignment angles to verify within specification — no adjustments were needed

D. The alignment check included the wheel bearings and steering linkage inspection but no alignment angles were measured

26. A vehicle has had an alignment performed 2 weeks ago. The customer returns with a pull complaint. The alignment rechecks within specification. Tire pressures are correct. What should the technician say?

A. Explain that tire conicity can cause a pull — a tire swap test will diagnose if a tire is the cause of the complaint

B. Explain that the alignment is still within specification and the pull is normal for the vehicle during driving today

C. Refund the customer for the alignment service and refuse further diagnostic service during this service visit today

D. Recommend immediate replacement of the alignment service with another alignment at no additional cost during visit

27. A customer complains of rapid tire wear on the inside edges of both front tires 5,000 miles after an alignment. The alignment rechecks within specification. What should the technician explain?

A. The wear pattern indicates a component failure — the tires will need replacement along with the repair during service

B. The customer has been driving aggressively — the wear pattern is consistent with spirited driving during service today

C. The alignment was performed incorrectly at the original shop — the current alignment is within specification today

D. Worn suspension bushings may be allowing dynamic alignment shift under load — inspect bushings for wear condition

28. A customer's vehicle has lane-keep assist. After an alignment, the lane-keep system activates at unpredictable times. The customer asks what caused this. What is the correct explanation?

A. The lane-keep system has failed during the alignment service and requires module replacement during service today

B. The forward camera requires calibration after an alignment that re-centered the steering wheel — this is typical

C. The lane-keep system is defective from the manufacturer and requires warranty replacement during the service today

D. The lane-keep system has exceeded its service life at this mileage and requires replacement during the service today

29. A FWD vehicle with torsion beam rear suspension has an out-of-spec rear toe reading. The customer asks if the alignment can be adjusted to correct the condition. What is the correct response?

A. Explain that the rear toe can be adjusted using special tools available at a few alignment shops during this service today

B. Explain that aftermarket adjustable torsion beam mounts can be installed to provide rear toe adjustment capability today

C. Explain that torsion beam rear suspensions have no rear toe adjustment — the beam or trailing arm is likely bent

D. Explain that the front toe can be adjusted to compensate for the rear toe asymmetry during the alignment today

30. A customer's vehicle has had a bent steering knuckle diagnosed. The customer asks if the knuckle can be straightened instead of replaced. What is the correct response?

A. Explain that bent knuckles must be replaced — straightening compromises the metallurgy and is not acceptable

B. Recommend straightening the knuckle at a specialty shop as a lower-cost alternative during the service today

C. Explain that bent knuckles can be straightened with a hydraulic press — a common repair for alignment issues today

D. Explain that the vehicle can be driven with a bent knuckle — alignment can compensate for the damage during service

31. A customer requests an alignment after a new set of tires was installed. The vehicle had no alignment complaints before the new tires. What is the correct service approach?

A. Perform a full alignment — any tire service warrants a full alignment to verify angles during the service visit today

B. Check alignment and perform adjustments only if readings are out of specification — tire installation doesn't require alignment

C. Refuse the alignment service — no alignment is needed after tire installation during the service visit today

D. Recommend a tire rotation instead of alignment — this will address any issues during the service visit today

32. A customer has had an alignment performed. The steering wheel sits off-center. The customer wants the wheel centered. What is the correct action?

A. Remove the steering wheel and reindex it on the splined shaft — the quickest solution for the customer during service

B. Explain that 3° off-center is within tolerance — the vehicle does not require any correction during the service today

C. Split the front toe adjustment unequally between tie rods to re-center the wheel while maintaining correct total toe

D. Recommend immediate replacement of the steering column to correct the off-center condition during the service today

33. A vehicle has both a pull complaint and rapid inside-edge tire wear. The customer asks how they are related. What is the correct explanation?

A. Pull and inside-edge wear are unrelated issues that should be diagnosed separately during different service visits today

B. Both symptoms indicate the alignment is out of specification — typically camber out-of-spec at one or more wheels

C. The pull is caused by tire conicity — the tire wear is caused by aggressive driving during normal operation today

D. Pull and tire wear at the same mileage is not a concern — replace the tire and the pull will resolve automatically today

34. A customer has a collision damage estimate and an alignment on the same repair order. The customer asks which should be done first. What is the correct response?

A. Perform the alignment first so the collision repair technicians know what components need replacement during service

B. Perform the collision repair first — alignment readings will be inaccurate on a vehicle with unrepaired damage today

C. Perform both services simultaneously — the alignment technician and collision repair technician work on the vehicle

D. Perform the collision repair first, including any structural straightening — alignment follows after structural work is complete

35. A vehicle has been aligned. The customer asks why a road test is part of the alignment service. What is the correct explanation?

A. The road test verifies tracking and steering wheel position under real driving conditions — not just static rack readings

B. The road test is optional and some shops skip it — the customer can drive the vehicle to verify the alignment service today

C. The road test is required by state law in all states — the technician must perform the road test to comply during service today

D. The road test is performed only if requested by the customer — otherwise the alignment is considered complete during visit

WHEEL AND TIRE DIAGNOSIS AND SERVICE (Questions 36–40)

36. A customer has had tires rotated. The TPMS warning light is illuminated. The customer asks if the system needs service. What is the correct explanation?

A. The TPMS sensors have failed from the rotation service — all four sensors require replacement during visit today

B. The TPMS module has failed and requires replacement after the rotation service was performed during service today

C. The vehicle-specific TPMS relearn procedure is needed to update sensor positions after the rotation service today

D. The TPMS warning light is a known false alarm for this vehicle — it can be ignored during normal driving today

37. A customer has a tire with a puncture in the shoulder area (where tread meets sidewall). The customer asks if it can be repaired. What is the correct response?

A. Recommend a combination plug/patch from inside the tire — the shoulder area is typically repairable during service today

B. Explain that shoulder-area punctures are outside the repairable zone — the tire must be replaced for safety reasons

C. Recommend an external string plug to seal the puncture — the tire can continue in service after the repair today

D. Recommend an interior patch only — the shoulder area does not require plug material in the repair during service today

38. A customer requests only one tire be replaced due to a road hazard. The other three tires have less than 2/32 inch tread difference. The vehicle is all-wheel drive. What is the correct response?

A. Recommend replacement of only the damaged tire — matching tread depth is not critical for AWD vehicles during service

B. Recommend replacement of both tires on the same axle — this is sufficient for most AWD vehicle applications during service

C. Recommend the customer decide — replacing one tire is acceptable for AWD vehicles regardless of tread depth during service

D. Recommend replacement of all four tires — tread depth matching is critical for AWD vehicles to prevent driveline damage

39. A wheel hub assembly installation has been performed using a torque-to-yield axle nut. The customer asks if the nut can be reused if the hub is replaced again. What is the correct response?

A. Explain that torque-to-yield nuts are single-use — a new nut is required whenever it is removed during the service today

B. Agree — the nut can be reused if visual inspection shows no damage during the service visit for cost savings today

C. Recommend the customer use a standard axle nut instead to allow reuse during future service visits today

D. Recommend the customer reuse the original nut — the cost savings justify the reuse during normal service operation today

40. A customer reports their TPMS warning light has come on after temperatures dropped 40°F overnight. The customer asks if the sensors are faulty. What is the correct explanation?

A. The TPMS sensors have failed from the cold weather — all four sensors require replacement during service today

B. The vehicle must be driven at highway speed for 30 minutes to clear the warning light during service today

C. Tire pressure drops approximately 1 psi per 10°F ambient temperature drop — add air to placard specification

D. The TPMS module requires a reset procedure to adjust for the cold weather during the service visit today

Practice Exam 24: Answer Key and Explanations

1. B — Generic power steering fluid in a Honda rack causes seal damage over time. The correct response is to flush with Honda-specified PSF AND inspect for seal damage that may have already occurred. Simply topping off continues the damage; assuming the damage is already done is premature without inspection. Always inspect before determining scope of repair.

2. D — Steering dampers are sealed units with no fill port — they cannot be refilled with fluid. The only correct repair for a leaking damper is replacement. Educating the customer about the component's design is part of professional customer service. Agreeing to a "fix" that isn't possible would misrepresent the repair.

3. A — An illuminated SRS warning indicates the airbag system may not deploy in a crash. This is a safety-critical fault that requires immediate diagnosis, regardless of how long the light has been on. Communicating the safety implications clearly is the correct professional response — deferral or reset without diagnosis is unsafe.

4. C — Sealants cannot repair internal rack leaks — the leak is between internal galleries under hundreds of PSI. Sealants at best provide temporary symptom suppression while internal damage worsens. Honest explanation of the situation is the correct customer service approach, even when the customer is hoping for a cheaper solution.

5. D — After battery replacement, EPS systems typically require an initialization procedure to restore full operation. This is a standard post-service step, not damage from the battery swap. Professional customer service explains the required procedure honestly rather than blaming the previous shop or claiming module damage without diagnosis.

6. B — Driving with an active SRS warning means the airbag may not deploy in a crash — this is a genuine safety concern, not a comfort/convenience issue. Customers should clearly understand this before making financial decisions about deferring the repair. Clear, honest safety communication protects both the customer and the shop.

7. A — Rack-mounted EPS systems have no fluid requiring service. The heavy feel indicates a separate issue requiring diagnosis (module, motor, sensor, or supply voltage). Fluid flush recommendations for

EPS systems are inappropriate and waste the customer's money. Honest explanation of what the system requires is the correct approach.

8. C — Gearbox rebuilds address internal seals and worn components, using the original housing; complete replacements provide a new unit with warranty. Both are valid repairs with different cost/benefit profiles. Professional explanation of the real differences helps the customer make an informed choice based on their needs and budget.

9. D — Cold cranking amps (CCA) can be inadequate even when a battery tests good at room temperature. In cold conditions, the battery voltage sags below the EPS module's minimum operating threshold, causing intermittent reduced assist. Load testing under cold-simulated conditions reveals the actual cause — the battery is likely the culprit.

10. B — Modern power steering hoses are designed for extended service life — typically 10+ years in normal service. Fleet vehicles may see slightly accelerated wear, but 1–2 years is too short an expectation. Accurate expectation-setting is part of professional service; under-promising creates appropriate customer expectations.

11. D — A 10° off-center steering wheel after an alignment indicates the previous alignment was incomplete — the toe adjustment was performed without properly centering the wheel. The customer should return to the original shop for correction, or the current shop can redo the alignment. No professional standard accepts a 10° off-center wheel.

12. A — Steering wheel retaining nuts are safety-critical fasteners that must be torqued with a calibrated torque wrench to the manufacturer's specified value. A loose retaining nut can allow the wheel to separate from the shaft. This is not a defer-until-later maintenance item; it requires immediate proper service.

13. C — Struts should be replaced in pairs on the same axle to maintain matched damping. Agreeing to single-side replacement creates a vehicle with asymmetric handling that the customer will complain about within weeks. Professionally explaining the reason for paired replacement — rather than refusing service entirely or charging differently — is the correct approach.

14. A — Coil springs on the same axle age at similar rates. Single-side replacement creates mismatched spring rates, producing uneven ride height and compromised handling. The professional

recommendation is pair replacement. Recommending all four is excessive; warranty-covering the other side is unusual and creates ambiguity.

15. B — An extended 8-minute compressor run time to restore height indicates a slow air leak at the affected corner. The correct diagnostic approach is inspecting the air spring and connections for the leak source before replacing components. Preemptive compressor or all-four-spring replacement is unnecessary without identifying the specific failure.

16. D — A cracked main leaf in a leaf spring pack cannot be welded, reinforced with a salvage leaf, or partially replaced. The complete leaf spring pack must be replaced. Professional service communicates this honestly — the "cheap fixes" would compromise safety and set the customer up for future problems.

17. C — Stabilizer end links wear at similar rates on both sides because they see similar service conditions. When one fails, the opposite is typically near failure. Recommending pair replacement during the same service saves the customer a return visit. This is standard professional practice.

18. A — Many air suspension systems require a calibration procedure via scan tool after any air spring replacement to reset reference values and teach the system the new component's characteristics. A ride difference after replacement often indicates the calibration step was missed, not a defective component.

19. B — Both ball joints should be replaced together — they wear at similar rates, and replacing only one means the other will fail within weeks, requiring a return visit. This is standard professional practice. Refusing service entirely is extreme; charging for only one side is unusual. Clear explanation and pair replacement is correct.

20. D — MacPherson strut vehicles require complete strut assembly replacement; conventional shock absorbers are not interchangeable with struts because struts also locate the knuckle. Clear technical explanation is required. Agreeing to something technically impossible misleads the customer and can lead to unsafe service.

21. C — Torsion bars should be replaced in pairs on the same axle to maintain balanced spring rates and ride height. Single-side replacement creates asymmetric handling. Replacing all four (rare) or recommending aftermarket coil-over conversion are both unnecessary for a simple pair replacement scenario.

22. B — Adaptive damping faults cause the system to default to a fixed safety mode — the vehicle can drive, but without adaptive damping features. The customer can drive safely in this condition while scheduling repair at the next service interval. Explaining the fallback and the eventual need for repair is professional service.

23. D — Sealed wheel bearings are maintenance-free — they are designed to last the vehicle's service life without fluid or lubrication service. Any claim otherwise is inaccurate and potentially upsells unnecessary service. Recommending no scheduled service is the correct professional answer.

24. A — Cracked suspension bushings allow dynamic alignment shift under load even before complete failure. This causes premature tire wear, handling changes, and alignment drift. Recommending replacement before complete failure is preventive service that saves the customer from downstream problems (tire wear, alignment drift, etc.).

25. C — An alignment check without adjustments is a valid service — it verifies whether angles are within specification. No adjustments were needed because the readings are in spec. Honest explanation of what was done (and not done) is professional service. The service provides the customer with verification, which has genuine value.

26. A — When alignment rechecks correct with correct tire pressures, tire conicity is the next diagnostic step. Swap the front tires left-to-right and observe whether the pull direction changes — if it does, tire conicity is the cause. This is the definitive tire-vs-alignment test and should be offered to the customer.

27. D — When tire wear develops after an alignment that still rechecks correct, dynamic alignment shift from worn suspension bushings is the most common cause. Static alignment is fine, but the geometry changes under load. Bushing inspection is the correct next diagnostic step, not aggressive driving blame or incorrect alignment claims.

28. B — On lane-keep-assist-equipped vehicles, the forward camera requires calibration after alignment that re-centers the steering wheel — the camera depends on accurate SAS geometry references. Unpredictable lane-keep activation is the typical symptom of a missed camera calibration. Explaining this as "typical" and required is accurate.

29. C — Torsion beam rear suspensions typically have no rear toe adjustment. When the reading is out of spec, the beam or trailing arm is bent — requiring component replacement. Honest explanation of the

design limitation and the likely cause is proper customer service. Promising "special adjustment tools" or aftermarket fixes misrepresents the actual repair.

30. A — Bent steering knuckles must be replaced — straightening compromises the heat-treated metallurgy and is not acceptable per any manufacturer or industry standard. Honest explanation of the limitation is required. Promising straightening, suggesting driving with the damage, or offering non-approved repairs all mislead the customer.

31. B — After tire installation, check the alignment and perform adjustments only if readings are out of specification. Tire installation alone doesn't automatically require alignment; however, verification is good practice if the customer requests it. Charging for a full alignment when adjustments aren't needed is unnecessary; refusing to check is also unprofessional.

32. C — Splitting the front toe adjustment unequally between left and right tie rods recenters the steering wheel while maintaining correct total toe. This is standard alignment procedure for correcting an off-center wheel. Reindexing the wheel on splines is a last resort; 3° is not within normal tolerance; replacing the column is extreme and unnecessary.

33. B — Pull and inside-edge wear are related symptoms both originating from alignment out of specification — typically camber out-of-spec at one or more wheels. Both symptoms should be resolved by correcting the underlying alignment issue. They are not unrelated, not caused by driving style, and not something that will fix itself.

34. D — Collision repair must be completed first, including any structural straightening. Alignment performed on an unrepaired or partially repaired vehicle produces invalid measurements. The structural foundation must be restored before alignment can be valid. Alignment before collision repair wastes time and produces inaccurate results.

35. A — The road test verifies tracking, steering wheel position, and freedom from noise under real driving conditions — conditions that cannot be replicated on a static alignment rack. It's a mandatory final step of professional alignment service, not optional. Skipping it means the technician cannot confirm the alignment is actually correct.

36. C — After tire rotation, direct TPMS systems need the vehicle-specific relearn procedure to update which sensor ID is assigned to which wheel position. The TPMS warning after rotation is expected and

simply requires the relearn — not sensor replacement, module replacement, or acceptance of a false warning.

37. B — Shoulder punctures (where tread meets sidewall) are outside the repairable zone per industry standards. The tire flexes too much in that area, and any repair can fail catastrophically at road speed. The tire must be replaced. This is a non-negotiable safety standard — no repair method is acceptable for shoulder punctures.

38. D — On all-wheel-drive vehicles, tread depth matching is critical — mismatched tread depths cause different rolling diameters between wheels, which can damage the driveline (differentials, transfer case, viscous couplings). Replacing all four tires when tread differences exceed a small threshold is standard for AWD vehicles to prevent expensive driveline damage.

39. A — Torque-to-yield axle nuts are single-use fasteners designed to stretch during initial torque to achieve precise preload. Reusing a TTY nut cannot produce proper clamping force because the stretch has already occurred. Always install a new TTY nut — no exceptions for cost savings, as the cost of bearing damage far exceeds the cost of a new nut.

40. C — Tire pressure drops approximately 1 psi per 10°F ambient temperature drop. A 40°F drop produces roughly 4 psi of pressure loss, commonly triggering TPMS warnings on cold mornings. Adding air to restore placard specification clears the warning. Sensor failure, drive cycles, and module resets don't address the actual cause — low pressure.