

# PRACTICE EXAM 20: ASE A3 SIMULATION (50 QUESTIONS)

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**50 Questions • 60-Minute Time Limit**

1. Technician A says a clutch that slips only under heavy load but holds during gentle driving indicates a worn or contaminated disc. Technician B says this symptom always means the clutch master cylinder is leaking internally. Who is correct?

- A. Both Technician A and Technician B
- B. Technician A only
- C. Technician B only
- D. Neither Technician A nor Technician B

2. All of the following can cause a clutch pedal to feel hard EXCEPT:

- A. A binding or corroded clutch release cable
- B. A dry or seized release fork pivot ball
- C. A pressure plate with excessive clamping load
- D. Air trapped in the hydraulic clutch release system

3. A clutch will not fully disengage after the hydraulic system is bled and confirmed free of air. Technician A says a worn master or slave cylinder seal could limit travel. Technician B says a clutch disc binding on the input shaft splines could be the cause. Who is correct?

- A. Technician A only
- B. Technician B only

- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

4. A vehicle's clutch chatters during engagement. Which of the following is the LEAST likely cause?

- A. A clutch slave cylinder with an internal fluid bypass leak
- B. Oil contamination on the clutch disc friction facings
- C. Broken or worn engine and transmission mounts
- D. A warped flywheel or unevenly worn pressure plate

5. A clutch disc's torsional damper springs are broken. The MOST likely symptom is:

- A. Clutch slippage that worsens under heavy acceleration
- B. A rattling noise at idle that changes when the pedal is pressed
- C. A clutch pedal that slowly sinks to the floor while held
- D. Complete failure of the clutch to release when pressed

6. Technician A says a dual-mass flywheel with excessive rotational play between its masses should be replaced. Technician B says the play can be eliminated by resurfacing the flywheel friction face. Who is correct?

- A. Both Technician A and Technician B
- B. Technician A only
- C. Technician B only
- D. Neither Technician A nor Technician B

7. A clutch that suddenly will not disengage immediately after the vehicle struck a large pothole MOST likely has:

- A. A clutch disc that instantly wore past the service limit
- B. A flywheel that cracked from the road hazard impact
- C. A pressure plate diaphragm spring that lost its tension
- D. A damaged or disconnected linkage or hydraulic line

8. A self-adjusting clutch was installed without resetting the adjuster mechanism. Technician A says the clamp load will be incorrect and the clutch may slip or operate poorly. Technician B says the adjuster will correct itself within the first few miles. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

9. A manual transmission's first gear ratio is 4.00:1 and the axle ratio is 3.50:1. The overall ratio in first gear is:

- A. 7.50:1 found by adding the two ratios together
- B. 1.14:1 found by dividing the gear by the axle ratio
- C. 14.00:1 found by multiplying the two ratios together
- D. 0.88:1 found by dividing the axle by the gear ratio

10. A transmission in overdrive has a ratio of 0.75:1. With the input shaft turning 1,500 rpm, the output shaft turns:

- A. 1,125 rpm because the output turns slower than the input
- B. 2,000 rpm because the output turns faster than the input
- C. 1,500 rpm because overdrive keeps the speeds equal
- D. 3,000 rpm because overdrive doubles the output speed

11. Technician A says a transmission that grinds into every gear with the engine running but shifts smoothly with the engine off indicates worn synchronizers throughout. Technician B says this symptom indicates the clutch is not fully disengaging. Who is correct?

- A. Both Technician A and Technician B
- B. Technician A only
- C. Neither Technician A nor Technician B
- D. Technician B only

12. A transmission whines in first through fourth gears but is quiet in fifth, which is a direct (1:1) gear that bypasses the countershaft. The MOST likely cause is:

- A. Worn countershaft (cluster gear) bearings used by the lower gears
- B. A worn fifth gear bearing loaded only in the direct gear
- C. A worn input shaft pilot bearing in the crankshaft bore
- D. Worn synchronizer rings on the fifth gear hub only

13. A transmission jumps out of third gear under deceleration. Technician A says worn third gear engagement teeth could be responsible. Technician B says a weak third-gear shift rail detent could also cause it. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

14. A manual transmission is difficult to shift only when the lubricant is cold and shifts normally once warm. The MOST likely cause is:

- A. Worn synchronizers across all of the forward gears

- B. A lubricant that is too heavy or the wrong viscosity
- C. A clutch that drags only when components are cold
- D. A bent shift fork that binds at lower temperatures

15. A growling noise is present in a manual transmission in neutral with the clutch engaged and the engine idling, continues in all gears, and stops when the clutch pedal is depressed. The MOST likely cause is:

- A. A worn input shaft bearing that turns whenever the clutch is engaged
- B. A worn output shaft bearing loaded only while driving
- C. A worn release bearing riding on the diaphragm fingers
- D. A worn pilot bearing that makes noise only when in gear

16. All of the following can cause a manual transmission to jump out of gear EXCEPT:

- A. Worn or rounded gear engagement (dog) teeth
- B. A weak or broken shift rail detent spring
- C. A worn or bent shift fork allowing the gear to walk out
- D. A worn clutch release bearing riding on the fingers

17. A transmission's reverse gear grinds when selected, but only if the vehicle is rolling slightly. On this unit reverse is not synchronized. The MOST likely cause is:

- A. A worn reverse gear synchronizer needing replacement
- B. The non-synchronized reverse gear clashing with the wheels still moving
- C. The wrong lubricant viscosity slowing the gear rotation
- D. A misadjusted shift linkage for the reverse gear position

18. A transmission case leaks lubricant at the output shaft where it exits the tailshaft housing. The MOST likely cause is:

- A. An overfilled case forcing fluid past the front input seal
- B. A cracked case casting near the bearing retainer bolts
- C. A worn or hardened output shaft seal in the tailshaft housing
- D. A loose drain plug allowing fluid to weep at road speed

19. Technician A says metal shavings throughout the lubricant with a grinding noise usually require teardown and component replacement. Technician B says a fluid flush and refill will repair this condition. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

20. A FWD transaxle final drive has a ratio of 4.06:1. With the transmission in a 1.00:1 gear at 3,000 rpm input, the front axle shafts turn approximately:

- A. 3,000 rpm because the direct gear passes speed straight through
- B. 12,180 rpm because the ratios multiply the input speed
- C. 1,500 rpm because the final drive halves the input speed
- D. 739 rpm because the final drive reduces the output speed

21. Technician A says a clicking noise during turns on a FWD vehicle indicates a worn outer CV joint. Technician B says a vibration or shudder during straight-line acceleration indicates a worn inner CV joint. Who is correct?

- A. Technician A only
- B. Both Technician A and Technician B
- C. Technician B only
- D. Neither Technician A nor Technician B

22. A FWD transaxle whines and the pitch follows vehicle speed regardless of the gear selected. The MOST likely cause is:

- A. A worn input shaft bearing turning with the engine speed
- B. Worn synchronizer rings shared across the gear ranges
- C. Worn final drive ring and pinion gears or their bearings
- D. A dragging clutch that never fully releases the input shaft

23. A FWD transaxle leaks repeatedly at the same axle seal even after two replacements. The MOST likely cause is:

- A. A worn or grooved axle shaft journal or a bad intermediate bearing
- B. The seals are defective and a third replacement will fix it
- C. The transaxle is underfilled and the seal runs dry and cracks
- D. The clutch hydraulic system is leaking onto the axle seal

24. All of the following can cause a clicking noise from a FWD vehicle EXCEPT:

- A. A worn outer CV joint articulating during turns
- B. A worn inner CV joint under certain load conditions
- C. A loose or damaged CV joint with internal play
- D. A worn final drive ring and pinion gear set

25. When reinstalling a FWD half shaft, the inner joint circlip must seat fully. If it does not, the MOST likely result is:

- A. The outer CV boot will tear during the first sharp turn
- B. The differential side bearing preload will be incorrect
- C. The inner joint can disengage from the transaxle under load

D. The wheel speed sensor signal will become erratic at speed

26. A FWD vehicle pulls to one side under hard acceleration and centers when coasting. After ruling out alignment and tires, the MOST likely cause is:

- A. A worn outer CV joint clicking during the cornering load
- B. Unequal axle shaft lengths or a failed intermediate shaft bearing
- C. The differential ring gear backlash being out of specification
- D. A dragging clutch limiting power to both front wheels

27. Technician A says a clunk when shifting from drive to reverse, after the differential checks out, can indicate worn U-joints. Technician B says it always indicates a worn clutch disc. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

28. A RWD drive shaft vibration increases steadily with vehicle speed. The U-joints are tight and the shaft is straight. The MOST likely remaining cause is:

- A. Worn slip yoke splines clunking under hard acceleration
- B. A worn center support bearing on a one-piece drive shaft
- C. The pinion seal leaking lubricant at the companion flange
- D. A drive shaft out of balance or with incorrect working angles

29. A double-Cardan joint is used at the transmission end of a drive shaft to:

- A. Allow the shaft to change length during suspension travel

- B. Disconnect the rear axle during two-wheel-drive operation
- C. Provide smoother power transfer at a large drive shaft angle
- D. Eliminate the need for a center support bearing on the shaft

30. A non-greaseable (sealed) U-joint shows reddish-brown dust around its seals. This MOST likely indicates:

- A. Normal seal lubricant weeping that needs no service
- B. The joint is failing from inadequate lubrication and must be replaced
- C. The drive shaft is out of balance and throwing off grease
- D. Surface rust that can be cleaned off and the joint reused

31. The working angles of the two U-joints on a single-piece drive shaft should be:

- A. Nearly equal and opposite to cancel the speed fluctuations
- B. As large as possible to maximize the articulation capability
- C. Set to zero degrees at both ends during normal operation
- D. Offset by exactly ninety degrees to balance the loads

32. A two-piece drive shaft rumbles, and the noise worsens with speed. The U-joints are good and the shaft is balanced. The MOST likely cause is:

- A. Worn slip yoke splines allowing fore-and-aft movement
- B. A bent drive shaft tube from a road hazard impact
- C. The pinion angle changed by worn suspension components
- D. A worn center support bearing on the two-piece shaft

33. A drive axle with a 3.55:1 ratio has a ring gear with 39 teeth. The pinion gear has approximately:

- A. 14 teeth, found by dividing 39 by 2.79
- B. 11 teeth, found by dividing 39 by 3.55
- C. 35 teeth, found by subtracting 3.55 from 39
- D. 138 teeth, found by multiplying 39 by 3.55

34. Technician A says a howl on acceleration with a centered contact pattern can be reduced by increasing backlash. Technician B says a howl on deceleration can be reduced by decreasing backlash. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

35. A limited-slip differential chatters during slow tight turns despite the correct lubricant grade. The MOST likely cause is:

- A. The lubricant lacks the required friction modifier additive
- B. The ring and pinion backlash is set too tight from service
- C. The axle shaft bearings are worn and allow shaft movement
- D. The pinion bearing preload exceeds the specification limit

36. All of the following are checked during a ring and pinion setup EXCEPT:

- A. The pinion bearing preload measured with a torque wrench
- B. The ring gear backlash measured with a dial indicator
- C. The gear tooth contact pattern with marking compound
- D. The clutch pedal free play measured at the pedal

37. A C-clip axle shaft has excessive end play and a clunk during acceleration. The MOST likely cause is:

- A. The wheel bearing at the outer end of the axle is worn
- B. Worn differential side gears or thrust washers in the carrier
- C. The ring and pinion backlash is set too tight from service
- D. The pinion bearing preload exceeds the specification limit

38. A rear axle makes a rumbling noise that is constant with vehicle speed and does not change between acceleration and deceleration. The MOST likely cause is:

- A. Worn ring and pinion gears from incorrect backlash
- B. Excessive differential side gear backlash creating a clunk
- C. A worn axle shaft bearing or wheel bearing in the housing
- D. A bent axle shaft causing a once-per-revolution vibration

39. A pinion seal has been replaced twice and still leaks. Technician A says a worn pinion bearing can let the yoke wobble and ruin the seal. Technician B says an over-tightened pinion nut beyond proper preload can damage the seal area. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Neither Technician A nor Technician B
- D. Both Technician A and Technician B

40. A semi-floating axle differs from a full-floating axle in that the semi-floating design:

- A. Supports the vehicle weight on the axle shaft and a single bearing
- B. Carries no vehicle weight on the axle shaft whatsoever
- C. Uses two hub bearings to carry the weight on the housing

D. Is found only on the front axles of four-wheel-drive trucks

41. Technician A says a vibration present only in four-wheel drive points to the front driveshaft, which turns only in 4WD. Technician B says a vibration present in both 2WD and 4WD points to the rear driveshaft or a component common to both. Who is correct?

A. Technician A only

B. Technician B only

C. Both Technician A and Technician B

D. Neither Technician A nor Technician B

42. A part-time 4WD vehicle binds and crow-hops when turning on dry pavement in four-wheel drive. This is:

A. A sign that the transfer case chain has stretched and needs replacement

B. Normal driveline windup because there is no center differential

C. Caused by low transfer case fluid creating internal binding

D. A result of the rear differential carrier bearings being worn

43. All of the following can prevent a part-time 4WD system from delivering power to the front wheels EXCEPT:

A. Front locking hubs that fail to engage the axle shafts

B. A front axle disconnect that fails to couple the axle

C. A broken front axle shaft or front differential gears

D. A worn rear output shaft seal leaking transfer case fluid

44. An AWD vehicle uses a viscous coupling that has lost its ability to transfer torque to the secondary axle. The MOST likely cause is:

- A. The silicone fluid inside the sealed coupling has degraded
- B. A stretched drive chain inside the transfer case housing
- C. A failed electronic control module commanding zero torque
- D. A slipping clutch disc reducing torque to the driveline

45. A 4WD vehicle's transfer case shifts into low range but pops out under load on a climb. The MOST likely cause is:

- A. The high-range clutch pack slipping under the added load
- B. The front axle disconnect failing to stay engaged on grades
- C. A worn shift fork, range collar, or weak detent in the case
- D. The rear driveshaft slip yoke binding during suspension travel

46. The MOST important reason to keep all four tires matched on an AWD vehicle is to:

- A. Improve the vehicle's fuel economy on the highway
- B. Prevent constant strain and wear on the center differential or coupling
- C. Maintain even brake pad wear across all four wheels
- D. Keep the speedometer reading accurate at all road speeds

47. An electronically controlled AWD coupling applies its clutch pack by means of:

- A. Centrifugal weights that engage as the output shaft speeds up
- B. A purely mechanical cam responding to driver pedal input
- C. Engine vacuum routed through a diaphragm servo unit
- D. An electric or electrohydraulic actuator commanded by a module

48. A transfer case low range is provided by a reduction gear set that:

- A. Multiplies engine torque while reducing the output speed
- B. Locks the front and rear outputs together with no slip
- C. Increases the output speed for a higher top-end velocity
- D. Disconnects the front driveshaft for highway cruising

49. A full-time 4WD system operated with its center differential locked on dry pavement will MOST likely:

- A. Improve fuel economy from the reduced driveline slippage
- B. Have no effect because the center differential is always locked
- C. Bind and wind up like a part-time system on high-traction surfaces
- D. Automatically disengage the front hubs to prevent any damage

50. Before returning a 4WD vehicle to the customer after transfer case service, the technician should verify the:

- A. Engine idle speed and ignition timing are within specification
- B. Brake pad thickness on all four wheels meets the minimum spec
- C. Fluid level, engagement in all ranges, and absence of leaks
- D. Tire rotation pattern matches the maintenance schedule

## **PRACTICE EXAM 20: ANSWER KEY AND EXPLANATIONS**

1. B — A clutch that slips only under heavy load but holds gently is the classic sign of a worn or contaminated disc, so Technician A is right. A leaking master cylinder is not the universal cause, so Technician B's absolute claim is wrong. Only A is right.
2. D — A hard pedal comes from added mechanical resistance: a binding cable, a seized fork pivot, or a stiffer pressure plate. Air in the hydraulic system makes the pedal soft, the opposite feel. It is the exception.
3. C — A worn master or slave cylinder seal can limit release travel, so Technician A is right, and a disc binding on the input shaft splines can prevent full release, so Technician B is right. Both explain failure to disengage with no air. Both technicians are correct.

4. A — Chatter comes from things that grab unevenly: oil contamination, broken mounts, or a warped flywheel. A slave cylinder bypass leak reduces release travel and causes poor disengagement, not chatter. It is the least likely chatter cause.
5. B — Broken disc damper springs let the disc rattle at idle, and the rattle changes when the pedal is pressed and the loading shifts. Slippage, a sinking pedal, or failure to release come from other faults. The pedal-dependent idle rattle points to the damper springs.
6. B — A dual-mass flywheel with excessive play between its masses has worn internal springs and must be replaced, so Technician A is right. Resurfacing the friction face does not fix internal play, so Technician B is wrong. Only A is right.
7. D — A clutch that suddenly will not disengage right after an impact has a damaged or disconnected linkage or hydraulic line, since sudden loss of release is mechanical. Disc, flywheel, or spring faults develop gradually. The impact timing identifies the linkage or line.
8. A — A self-adjusting clutch installed without resetting the adjuster has an incorrect clamp load and may slip or operate poorly, so Technician A is right. It does not correct itself once installed, so Technician B is wrong. Only A is right.
9. C — Overall ratio is the gear ratio multiplied by the axle ratio:  $4.00 \times 3.50 = 14.00:1$ . Ratios in series multiply. This combined reduction sets the first-gear torque multiplication.
10. B — With a 0.75:1 overdrive ratio the output turns faster than the input:  $1,500 \div 0.75 = 2,000$  rpm. Overdrive steps the output speed up. The output shaft spins faster than the input.
11. D — Grinding into every gear with the engine running but smooth shifting with it off means the clutch is not fully disengaging to stop the input shaft, so Technician B is right. Worn synchronizers would affect engine-off shifting too, so Technician A is wrong. Only B is right.
12. A — Whine in first through fourth that disappears in a direct fifth gear, which bypasses the countershaft, comes from the countershaft bearings used by the lower gears. Fifth gear noise would be confined to fifth. The lower-gear-only pattern isolates the countershaft.
13. C — Worn third gear engagement teeth can let the gear walk out, so Technician A is right, and a weak third-gear detent can also allow slipout, so Technician B is right. Both cause jump-out under deceleration. Both technicians are correct.
14. B — Difficulty shifting only when the lubricant is cold, clearing once warm, points to a lubricant too heavy or of the wrong viscosity that resists synchronizer action cold. Worn synchronizers, clutch drag, or a bent fork would not be temperature-specific. The cold-only symptom points to the fluid.
15. A — A growl in neutral with the clutch engaged that continues in all gears and stops when the pedal is depressed comes from the input shaft bearing, which turns whenever the clutch is engaged. Depressing the pedal stops the shaft and the noise. The condition isolates the input bearing.
16. D — Jumping out of gear results from worn dog teeth, a weak detent, or a worn shift fork that let the gear walk out. A worn release bearing makes noise during disengagement, not jump-out. It is the exception.
17. B — A non-synchronized reverse grinds when selected with the wheels still rolling because the gears are still turning and there is no synchronizer to match them. A worn synchronizer cannot be the cause since reverse has none. The clashing gears explain the grind.
18. C — A leak at the output shaft where it exits the tailshaft housing comes from a worn or hardened output shaft seal. Overfilling, case cracks, or a loose plug leak elsewhere. The leak location identifies the output seal.

19. A — Metal shavings throughout the lubricant with a grinding noise indicate severe internal damage requiring teardown and component replacement, so Technician A is right. A flush leaves the damaged parts in service, so Technician B is wrong. Only A is right.
20. D — With a 1.00:1 gear and a 4.06:1 final drive, the axle shafts turn  $3,000 \div 4.06 \approx 739$  rpm, since the final drive reduces output speed. The reduction divides the input speed. The axles turn slower than the input.
21. B — A click during turns indicates a worn outer CV joint, so Technician A is right, and a shudder during straight-line acceleration indicates a worn inner CV joint, so Technician B is right. Both symptom-to-joint links are correct. Both technicians are correct.
22. C — A transaxle whine whose pitch follows vehicle speed in every gear comes from the final drive ring and pinion gears or their bearings, which turn with road speed. Input bearings and synchronizers track engine or clutch conditions. The speed correlation locates the final drive.
23. A — Repeated failure of the same axle seal points to a worn or grooved shaft journal or a bad intermediate bearing letting the shaft move and destroy each seal. Simply replacing the seal again ignores the cause. The worn journal or bearing is the real fault.
24. D — A clicking noise comes from worn outer or inner CV joints or a joint with internal play. A worn final drive ring and pinion produces a whine, not a click. It is the exception.
25. C — If the inner joint circlip is not fully seated, the half shaft is not locked into the transaxle and the inner joint can disengage under load. Proper seating retains the shaft. An unseated clip is a retention failure.
26. B — A pull under hard acceleration that centers on coasting, with alignment and tires ruled out, is torque steer from unequal axle lengths or a failed intermediate shaft bearing. Outer joint clicks, backlash, or clutch drag present differently. The axle or intermediate shaft is the driveline cause.
27. A — A clunk on the drive-to-reverse change, with the differential good, can indicate worn U-joints, so Technician A is right. It does not always mean a worn clutch disc, so Technician B is wrong. Only A is right.
28. D — A vibration that builds with speed, with tight U-joints and a straight shaft, points to a drive shaft out of balance or with incorrect working angles. These speed-related factors remain. Balance or angle correction addresses the vibration.
29. C — A double-Cardan joint acts as a constant-velocity unit, providing smoother power transfer at the large drive shaft angle. It does not change length, disconnect drive, or replace a support bearing. Smoothness at the steep angle is its purpose.
30. B — Reddish-brown dust around a sealed U-joint is fretting rust from a bearing running dry, signaling the joint is failing and must be replaced. A non-greaseable joint cannot be relubricated. The dust is a wear indicator.
31. A — The two U-joint working angles on a single-piece shaft should be nearly equal and opposite so their speed fluctuations cancel. Large, zero, or ninety-degree-offset angles would not cancel. Equal and opposite angles produce smooth output.
32. D — A two-piece drive shaft that rumbles and worsens with speed, with good U-joints and balance, has a worn center support bearing. The bearing noise rises with shaft speed. Replacing the support bearing resolves the rumble.
33. B — Pinion tooth count equals ring gear teeth divided by the ratio:  $39 \div 3.55 \approx 11$  teeth. The ratio relates the two tooth counts. An 11-tooth pinion with a 39-tooth ring gear produces the 3.55:1 ratio.
34. C — A drive-side howl with a centered pattern is reduced by increasing backlash, so Technician A is right, and a coast-side howl is reduced by decreasing backlash, so Technician B is right. Each noise responds oppositely. Both technicians are correct.

35. A — A limited-slip differential that chatters in slow turns despite the correct lubricant grade is missing the required friction modifier additive, so the clutch packs grab. The modifier allows smooth slip. Adding it eliminates the chatter.
36. D — A ring and pinion setup checks pinion bearing preload, ring gear backlash, and the tooth contact pattern. Clutch pedal free play belongs to the clutch system, not the axle setup. It is the exception.
37. B — Excessive C-clip axle end play with a clunk on acceleration comes from worn differential side gears or thrust washers, which control axle position. Wheel bearings, backlash, or preload present differently. The side gears and washers are the cause.
38. C — A rumble constant with vehicle speed that does not change with acceleration or deceleration comes from a worn axle shaft or wheel bearing. Ring and pinion noise changes between drive and coast. The steady, load-independent rumble points to a bearing.
39. D — A worn pinion bearing can let the yoke wobble and ruin the seal, so Technician A is right, and an over-tightened pinion nut beyond proper preload can damage the seal area, so Technician B is right. Both explain repeat seal failure. Both technicians are correct.
40. A — In a semi-floating axle the shaft supports the vehicle weight through a single bearing while also transmitting torque. A full-floating shaft carries no weight, riding on two hub bearings. The weight-bearing shaft defines the semi-floating design.
41. C — A vibration only in four-wheel drive points to the front driveshaft, which turns only in 4WD, so Technician A is right, and a vibration in both modes points to the rear driveshaft or a shared component, so Technician B is right. Both reasoning paths are valid. Both technicians are correct.
42. B — Binding and crow-hopping when turning in 4WD on dry pavement is normal driveline windup because a part-time system has no center differential to absorb the speed difference. It is not a failure. The missing center differential is the cause.
43. D — Front locking hubs, a front axle disconnect, or a broken front shaft or gears can all stop front-wheel power. A worn rear output seal only leaks fluid and does not interrupt the front drive path. It is the exception.
44. A — A viscous coupling that can no longer transfer torque has degraded silicone fluid inside the sealed unit, since fluid shear provides the coupling. A chain, module, or clutch disc is not part of a viscous coupling. Degraded fluid is the root failure.
45. C — A transfer case that pops out of low range under load has a worn shift fork, range collar, or weak detent that cannot hold engagement. Clutch packs, axle disconnects, or slip yokes present differently. The worn range components cause the slipout.
46. B — Matching all four tires on an AWD vehicle prevents constant strain and wear on the center differential or coupling caused by differing rolling diameters. Economy, brake wear, and speedometer accuracy are minor by comparison. Protecting the driveline is the key reason.
47. D — An electronically controlled coupling applies its clutch pack through an electric or electrohydraulic actuator commanded by a module. Centrifugal, mechanical-cam, or vacuum methods are not used in these units. The module-commanded actuator applies the clutch.
48. A — A transfer case low range uses a reduction gear set that multiplies engine torque while reducing output speed for slow, heavy work. It does not lock outputs, raise speed, or disconnect a shaft. Torque multiplication with speed reduction defines low range.
49. C — Locking the center differential on dry pavement removes the front-to-rear speed allowance, causing binding and windup just like a part-time system. It does not improve economy or release the hubs. Locked on pavement, the system binds.

50. C — Before returning a serviced 4WD vehicle, the technician verifies the fluid level, proper engagement in all ranges, and the absence of leaks. Engine timing, brake pads, and rotation schedule are outside this service. Confirming fluid, engagement, and leaks completes the job.