

# PRACTICE EXAM 7

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1. A vehicle's engine overheats only at idle and in slow traffic but cools down at highway speed. Which component failure best explains this pattern?

- A. A stuck-closed thermostat blocking all flow
- B. A leaking radiator hose at the upper connection
- C. A failed electric cooling fan not pulling air at low speed
- D. A loose serpentine belt on the alternator

2. A customer reports their engine takes far longer than normal to reach operating temperature and the heater barely warms. Which failure is most consistent?

- A. A radiator cap stuck closed under pressure
- B. A thermostat stuck open, letting the engine run cool
- C. A water pump spinning too quickly
- D. An empty coolant overflow reservoir

3. A new alternator fails again shortly after installation. Which overlooked condition most likely caused the repeat failure?

- A. The serpentine belt was too new
- B. The catalytic converter was clogged
- C. The cabin air filter was dirty
- D. A failing battery overworking the alternator

4. A customer's brakes squeal constantly and the squeal stops when the brakes are applied harder. What is the most likely cause?

- A. Air trapped in the brake hydraulic lines
- B. A seized caliper on one front wheel
- C. Brake fluid contaminated with moisture
- D. The wear indicator contacting the rotor on worn pads

5. A vehicle's clicking noise occurs only when turning, on a front-wheel-drive car. Which component is most likely failing?

- A. A wheel bearing on the rear axle
- B. A CV joint, often due to a torn boot
- C. A worn U-joint on a driveshaft
- D. The power steering pump pulley

6. A car cranks but does not start, and the fuel pump cannot be heard priming. Which component is most directly implicated?

- A. The alternator failing to charge
- B. The starter solenoid sticking
- C. The ignition coil misfiring
- D. The in-tank electric fuel pump

7. A customer's vehicle runs rough and burns oil after a cheap PCV valve failed. Why does a failed PCV valve cause these symptoms?

- A. It directly injects oil into the cylinders
- B. It controls the spark timing of the engine
- C. It regulates the coolant temperature
- D. It mismanages crankcase blow-by, causing oil consumption and rough running

8. A vehicle's battery keeps going dead overnight even though it is new. Which condition would best explain the new battery repeatedly discharging?

- A. The battery group size is slightly too large
- B. A parasitic draw or charging-system fault
- C. The cold cranking amps rating is too high
- D. The reserve capacity exceeds the requirement

9. A customer used the wrong DOT 5 silicone fluid in a system designed for DOT 3. Why is this a problem?

- A. The incompatible silicone fluid can compromise the braking system
- B. Silicone fluid always boils at a lower temperature
- C. DOT 5 is identical to DOT 3 in every way
- D. Silicone fluid improves the system's performance

10. A vehicle's automatic transmission shifts harshly after a fluid service that used a non-specified fluid. Why did this occur?

- A. The fluid level was set slightly too high
- B. The transmission filter was reused
- C. The wrong fluid failed to meet the transmission's specification
- D. The torque converter was replaced unnecessarily

11. A customer's tires wear unevenly on the inner edges after worn tie rods were left unaddressed. Why does this happen?

- A. The tires were simply over-inflated
- B. Worn steering components shifted the alignment angles
- C. The wheels were the wrong diameter

D. The brakes were dragging on those wheels

12. A vehicle makes a growling noise that rises with speed and changes pitch in corners. What does the cornering change confirm?

- A. The noise comes from the exhaust system
- B. The noise comes from a fuel injector
- C. The noise is consistent with a worn wheel bearing
- D. The noise comes from the timing belt

13. A customer installed pads without the hardware kit and now reports squealing and uneven wear. Why did omitting the hardware cause this?

- A. The pads were the wrong friction material
- B. The rotors were below minimum thickness
- C. Worn or missing hardware lets pads sit and move improperly
- D. The brake fluid was the wrong DOT rating

14. A vehicle's serpentine belt squeals on cold mornings and the noise fades as it warms. Besides the belt, which related component is a common culprit?

- A. The catalytic converter heating up
- B. The fuel pressure regulator
- C. The mass airflow sensor
- D. A worn belt tensioner failing to maintain tension

15. A customer reused torque-to-yield head bolts and now has a head gasket leak. Why did reusing the bolts contribute to the failure?

- A. The bolts were the wrong thread pitch

- B. The bolts were too long for the holes
- C. The gasket was installed upside down
- D. TTY bolts are designed to stretch once and lose proper clamping when reused

16. A vehicle overheats and the coolant is found to be gelled. The owner had mixed two coolant types. Why did mixing cause this?

- A. The coolant level was simply too low
- B. The radiator cap was the wrong pressure rating
- C. Incompatible coolant chemistries reacted and gelled
- D. The thermostat was stuck closed

17. A customer's CV axle clicks loudly, and inspection reveals a torn boot that had been leaking grease. Why does the torn boot lead to the clicking?

- A. Lost grease and contamination caused the joint to wear
- B. The boot itself produces the clicking sound
- C. The boot regulates the differential gear ratio
- D. The boot controls the brake hydraulic pressure

18. A vehicle's headlight bulb fails repeatedly soon after replacement. Which installation-related cause is most plausible?

- A. Touching the halogen bulb glass, leaving oils that cause hot spots
- B. The bulb trade number was correct for the vehicle
- C. The fuse was the proper amperage
- D. The wiring harness was undamaged

19. A customer's vehicle loses power steering assist intermittently, and it has a belt-driven hydraulic system. Which component is most likely involved?

- A. The electric assist motor on the column
- B. The brake master cylinder
- C. The power steering pump or its belt
- D. The wheel speed sensor

20. A vehicle's brake pedal sinks slowly to the floor under steady pressure. Which hydraulic component is most likely failing?

- A. The brake booster losing vacuum
- B. The master cylinder bypassing internally
- C. The ABS tone ring
- D. The parking brake cable

21. A customer's engine pings under acceleration after the wrong heat-range spark plugs were installed. Why does the wrong heat range cause this?

- A. The plugs were the wrong physical length
- B. The plug gap was set too wide
- C. A too-hot plug can cause pre-ignition or pinging
- D. The plug wires were too long

22. A vehicle's A/C blows warm and the system is found low on refrigerant with the wrong type added. Why is using the wrong refrigerant a problem?

- A. Refrigerants are all interchangeable
- B. The wrong refrigerant always cools better
- C. Adding more of any type fixes the system
- D. Incompatible refrigerant can damage the system and is non-interchangeable

23. A customer's drum brakes drag and overheat after new shoes were installed with the old, weak return springs. Why did reusing the springs cause dragging?

- A. The shoes were the wrong friction material
- B. Weak return springs fail to pull the shoes back from the drum
- C. The wheel cylinder was oversized
- D. The drum was below minimum diameter

24. A vehicle's ABS light is on and one wheel's anti-lock function is lost. Which component most commonly causes this?

- A. The brake master cylinder
- B. The brake booster
- C. The proportioning valve
- D. A failed wheel speed sensor

25. A customer's vehicle vibrates and clunks from the driveline on a rear-wheel-drive truck. Which worn component is most likely?

- A. A CV joint on a front half shaft
- B. The serpentine belt tensioner
- C. The power steering rack
- D. A worn U-joint in the driveshaft

26. A vehicle's check-engine light and rough idle followed a vacuum hose being replaced with non-rated hose that collapsed. Why did the wrong hose cause the problem?

- A. The collapsed hose disrupted the vacuum the system needs
- B. The hose color was incorrect
- C. The hose was too expensive

D. The hose was fuel-rated by mistake

27. A customer's new battery cranks slowly in cold weather. Which specification was most likely insufficient?

A. The reserve capacity was too high

B. The cold cranking amps were below the requirement

C. The group size was slightly small

D. The amp-hour rating was excessive

28. A vehicle leaks oil at the valve cover after a gasket was reused during a repair. Why should the gasket have been replaced?

A. A compressed used gasket rarely re-seals reliably

B. The valve cover was the wrong material

C. The oil viscosity was incorrect

D. The PCV valve was missing

29. A customer's vehicle fails an emissions test, and the catalytic converter was replaced with a non-compliant unit. Why is this a problem?

A. The converter was physically too small

B. The converter was painted the wrong color

C. A non-compliant converter does not meet required emissions standards

D. The converter was installed backward

30. A vehicle's wheels were fitted with the correct diameter but the wrong offset, causing rubbing. Why did the offset matter?

A. Offset sets how the mounting face sits relative to the wheel centerline

- B. Offset is the same as the bolt pattern
- C. Offset describes the tire's load index
- D. Offset has no effect on clearance

31. A customer's interference engine suffered bent valves after the timing belt broke. Why did the belt failure cause internal damage?

- A. The belt drives the alternator directly
- B. On an interference engine, pistons strike open valves when timing is lost
- C. The belt controls the oil pressure
- D. The belt is connected to the brake system

32. A vehicle's coolant boils over even at normal temperature after a wrong radiator cap was installed. Why did the cap cause this?

- A. The cap controls the thermostat opening
- B. An incorrectly rated cap fails to hold the pressure that raises the boiling point
- C. The cap filters the coolant
- D. The cap drives the water pump

33. A customer's transmission overheats and slips, and a CVT was filled with conventional ATF. Why did this occur?

- A. The fluid level was simply too low
- B. The filter was clogged with debris
- C. The torque converter was faulty
- D. A CVT requires dedicated fluid, and ATF cannot perform its function

34. A vehicle's brakes feel spongy and the pedal is soft. Which condition best explains a spongy pedal?

- A. The rotors are below minimum thickness
- B. The pads are the wrong friction material
- C. The parking brake is engaged
- D. Air trapped in the hydraulic system

35. A customer's engine runs lean and the computer cannot adjust correctly after the mass airflow sensor failed. Why does a failed MAF cause this?

- A. The MAF measures incoming air the computer uses to meter fuel
- B. The MAF controls the spark timing directly
- C. The MAF regulates the coolant flow
- D. The MAF operates the transmission shifts

36. A vehicle's no-start condition is traced to a heavy current path failure during cranking. Which starting-system component switches that heavy current?

- A. The starter solenoid engaging the starter
- B. The alternator rectifier
- C. The ignition coil secondary
- D. The cabin fuse panel

37. A customer reports a wheel that hums and growls, worse when loaded in a turn. Which component does the load-dependence point to?

- A. A misfiring ignition coil
- B. A clogged fuel filter
- C. A slipping serpentine belt
- D. A worn wheel bearing under load

38. A vehicle's limited-slip differential chatters in turns after a standard gear oil without modifier was used. Why did this happen?

- A. The gear oil was too thin
- B. The differential cover leaked
- C. The oil lacked the friction modifier the LSD requires
- D. The axle tag was missing

39. A customer's spark-knock problem resolved after the correct heat-range plug was installed. Why did the correct heat range fix it?

- A. The proper heat range dissipates heat correctly, preventing pre-ignition
- B. The new plug was simply a different brand
- C. The plug gap was irrelevant to the fix
- D. The plug wires were shortened

40. A vehicle's brake job left the pedal pulsing during stops. Which condition most commonly causes a pulsation?

- A. Air in the hydraulic lines
- B. A warped or uneven rotor surface
- C. A low brake fluid level
- D. A seized parking brake cable

41. A customer's battery terminals corroded heavily, causing a no-start. Which related items should accompany a battery sale to address this?

- A. A new alternator and serpentine belt
- B. Terminal cleaning tools and replacement terminals
- C. A set of brake pads and rotors

D. A timing belt kit and water pump

42. A vehicle's engine surges and stalls after a fuel filter was left clogged. Why does a clogged fuel filter cause this?

- A. The filter controls the ignition timing
- B. The filter regulates the coolant flow
- C. The filter measures the incoming air
- D. A clogged filter restricts fuel flow to the engine

43. A customer's vehicle pulls to one side under braking only. Which hydraulic-side cause is most likely?

- A. A sticking caliper applying unevenly at one wheel
- B. A worn timing belt
- C. A dirty cabin air filter
- D. A failed mass airflow sensor

44. A vehicle's headlight aim and brightness were fine, but the bulb was the wrong trade number and didn't fit. Why does the trade number matter?

- A. The trade number sets the bulb's color only
- B. The trade number is just a brand identifier
- C. The trade number defines the correct bulb for the vehicle and position
- D. The trade number indicates the fuse rating

45. A customer's engine lost coolant with no visible external leak, and the head gasket was suspected. Why can a head gasket failure cause internal coolant loss?

- A. The head gasket controls the oil pressure

- B. The head gasket seals coolant passages that can leak internally when it fails
- C. The head gasket drives the water pump
- D. The head gasket regulates the thermostat

46. A vehicle's serpentine belt was replaced, but a worn idler pulley was left in place and caused a new noise. Why should the idler have been addressed?

- A. The idler pulley wears with the belt and routes it
- B. The idler pulley is part of the exhaust system
- C. The idler pulley controls fuel delivery
- D. The idler pulley has no effect on the belt

47. A customer's vehicle has a stuck-closed thermostat and is overheating. Why does this cause overheating?

- A. The thermostat directly heats the coolant
- B. The thermostat measures the engine load
- C. A stuck-closed thermostat blocks coolant flow to the radiator
- D. The thermostat pressurizes the system

48. A vehicle's tires must be replaced and it has TPMS. Why might the sensors need attention beyond mounting?

- A. Sensors have finite batteries and may need replacement and relearning
- B. Sensors control the brake hydraulic pressure
- C. Sensors regulate the engine fuel mixture
- D. Sensors drive the alternator output

49. A customer's vehicle requires a European oil approval, and a non-approved oil led to issues. Why did matching only viscosity fall short?

- A. The viscosity was actually wrong as well
- B. The oil failed to meet the required performance specification
- C. The oil color did not match
- D. The oil bottle was the wrong size

50. A vehicle's brake fluid absorbed moisture over time and its boiling point dropped. Which property of the fluid explains this?

- A. Glycol brake fluid is hygroscopic and absorbs moisture
- B. The fluid is silicone-based and repels water
- C. The fluid evaporated from the reservoir
- D. The fluid changed color when heated

51. A customer's clutch slips after only the disc was replaced and a worn flywheel was left. Why did leaving the flywheel cause slipping?

- A. The disc was the wrong friction material
- B. The pressure plate was installed backward
- C. The release bearing was too large
- D. A worn or scored flywheel prevents proper clutch engagement

52. A vehicle's engine has low power and the intake was found to have an unfiltered, dirty air path. Which neglected maintenance item is implicated?

- A. The cabin air filter behind the glovebox
- B. The engine air filter in the airbox
- C. The oil filter on the block
- D. The fuel filter on the rail

53. A customer's part arrived wrong because the phone order omitted the trim level. What does this illustrate about information gathering?

- A. The supplier shipped a defective part
- B. Incomplete information leads to wrong-part errors
- C. The catalog data was outdated
- D. The delivery driver took the wrong route

54. A vehicle's emissions system stored a fault for the EGR. What does the EGR valve do that, when failed, triggers emissions problems?

- A. It measures the incoming airflow
- B. It pressurizes the fuel rail
- C. It routes crankcase blow-by gases
- D. It recirculates exhaust gas to lower combustion temperatures

55. A customer's drum brakes were serviced, but the leaking wheel cylinder was not replaced and soon contaminated the new shoes. Why should the wheel cylinder have been replaced?

- A. The shoes were the wrong size
- B. A leaking wheel cylinder contaminates the friction surface
- C. The drum was below minimum diameter
- D. The return springs were too strong

56. A vehicle's no-crank condition is traced to the component that physically turns the engine. Which is it?

- A. The starter motor engaging the flywheel ring gear
- B. The alternator charging the battery
- C. The ignition coil firing the plugs

D. The catalytic converter treating exhaust

57. A customer's vehicle could have port or direct injection, and the wrong injection-type part was sold. What would have resolved the correct type?

A. The tire size on the vehicle

B. The exterior paint code

C. The customer's fuel-economy memory

D. The engine information decoded from the VIN

58. A vehicle's transmission was damaged after a generic fluid not meeting the spec was used. Why is automatic transmission fluid type-specific?

A. ATF only lubricates and nothing else

B. ATF transmits power and operates hydraulics, requiring the correct formulation

C. ATF is the same as engine oil

D. ATF color determines its compatibility

59. A customer's vehicle wandered and clunked, traced to worn ball joints. What does a ball joint do that, when worn, causes these symptoms?

A. It seals the engine's coolant passages

B. It provides a pivoting connection allowing controlled suspension and steering movement

C. It measures the wheel speed for ABS

D. It stores the vehicle's electrical charge

60. A vehicle's A/C cools poorly and the compressor is found seized. What is the compressor's role that makes its failure critical?

A. It removes moisture from the refrigerant

- B. It absorbs heat at the evaporator
- C. It releases heat at the condenser
- D. It pressurizes and circulates the refrigerant

61. A customer's repeated fuse failures were "solved" by a previous shop installing a larger fuse, and now wiring is damaged. Why was the larger fuse the wrong fix?

- A. The larger fuse was the wrong color
- B. A higher-rated fuse defeats the protection, allowing wiring damage
- C. The fuse should have been removed entirely
- D. The fuse holder was the wrong size

62. A vehicle's spark delivery uses individual coils on each plug, and a customer asked for plug wires. Why are there no plug wires?

- A. A coil-on-plug system mounts a coil on each plug, eliminating wires
- B. The wires are hidden under the intake manifold
- C. The wires are a dealer-only part
- D. The wires were removed during a recall

63. A customer's brake rotor was machined below its minimum thickness and now overheats and cracks. Why does a too-thin rotor fail this way?

- A. The rotor was the wrong diameter
- B. The pads were the wrong material
- C. A too-thin rotor cannot dissipate heat and can overheat or crack
- D. The caliper was installed backward

64. A vehicle's coolant was correct in color but wrong in chemistry, causing corrosion. Why was color a misleading guide?

- A. Manufacturers dye different chemistries similar colors
- B. All coolants are the same green color
- C. Coolant loses color after a month
- D. Color changes permanently when mixed

65. A customer's all-wheel-drive vehicle suffered driveline binding after a ring and pinion with a mismatched ratio was installed. Why did the mismatch cause binding?

- A. The differential cover was the wrong size
- B. The gear oil was the wrong viscosity
- C. The wheels were a different diameter
- D. The front and rear ratios must match to avoid binding

66. A vehicle's battery specified AGM, but a flooded unit was installed and failed early. Why did the flooded battery underperform?

- A. Flooded batteries are illegal for cars
- B. The two types are completely identical
- C. The flooded battery did not fit the tray
- D. The flooded battery did not meet the vehicle's charging and durability needs

67. A customer's superseded part number returned no listing until the specialist found the replacement. What does a supersession indicate?

- A. The part is permanently unavailable
- B. The number was entered incorrectly
- C. The old number has been replaced by a current one
- D. The customer needs a different vehicle's part

68. A vehicle's special-order part was never collected because the customer wasn't notified. Which step was missed?

- A. Collecting a deposit on the order
- B. Documenting the vehicle information
- C. Notifying the customer promptly when it arrived
- D. Recording the demand in the system

69. A customer's vehicle ran cool and the heater was weak, traced to a thermostat. Which thermostat failure causes running cool?

- A. A thermostat stuck open, allowing constant coolant flow
- B. A thermostat stuck closed, blocking flow
- C. A radiator cap stuck open
- D. A water pump impeller failure

70. A vehicle's inventory count showed a shortage that turned out to be unrecorded store use. Why did the store use appear as a discrepancy?

- A. The parts were sold at retail
- B. Pulling parts without a store-use record looks like missing stock
- C. The parts were returned to the supplier
- D. The count was performed incorrectly

71. A customer's invoice total was wrong because tax was applied before the discount. What is the correct order of operations?

- A. Add tax first, then discount, then subtotal
- B. Apply discount to each line before extending
- C. Add tax to each line before subtotaling

D. Extend lines, subtotal, apply discount, then add tax

72. A vehicle's fuel line failed and leaked after non-fuel-rated hose was used. Why was this dangerous?

A. The hose was the wrong color

B. Non-rated hose degrades under fuel and pressure, risking leaks and fire

C. The hose was too expensive

D. The hose matched a vacuum line

73. A customer's vehicle had a part that varied by production date, and the wrong version was sold using the model year. Why did using the model year fail?

A. The model year is always wrong

B. The catalog had no date split

C. The actual build date, not the model year, governs a date-split part

D. The VIN does not contain a year

74. A vehicle's brake pads wore out quickly, and the customer wants a quieter, cleaner replacement. Which friction material fits that preference?

A. Semi-metallic, durable but noisier

B. Raw cast-iron friction lining

C. Ceramic, quieter and cleaner for everyday driving

D. Sintered racing compound

75. A customer's vehicle leaks from a rotating shaft at the front of the engine. Which sealing component is involved?

A. The valve cover gasket

- B. The oil pan gasket
- C. The intake manifold gasket
- D. The front crankshaft seal

76. A vehicle's wrong-part return was traced to selecting a "with ABS" part for a non-ABS vehicle. Why did this happen?

- A. The supplier shipped the wrong part
- B. The customer changed the vehicle
- C. The footnote qualifying the part by ABS was overlooked
- D. The catalog was entirely out of date

77. A customer's old engine oil and antifreeze need disposal. Why can't these go in the trash?

- A. They are regulated wastes requiring proper recycling
- B. They are too heavy for the trash
- C. They are flammable only when cold
- D. There are no disposal rules for them

78. A vehicle's tire size P215/60R16 was misread, and the wrong tire was ordered. What does the "60" represent?

- A. The section width in millimeters
- B. The wheel diameter in inches
- C. The aspect ratio as a percentage of width
- D. The load index number

79. A customer's vehicle stalls and the engine computer cannot read exhaust conditions after a sensor failed. Which sensor monitors the exhaust for fuel adjustment?

- A. The mass airflow sensor
- B. The oxygen sensor in the exhaust
- C. The coolant temperature sensor
- D. The crankshaft position sensor

80. A vehicle's clutch job omitted the release bearing, and a noise appeared when the pedal is pressed. Why should the release bearing have been replaced?

- A. It is part of the clutch kit and engages when the pedal is pressed
- B. It is part of the brake system
- C. It controls the fuel delivery
- D. It regulates the coolant flow

81. A customer's brake fluid was DOT 5 silicone but the system specified DOT 5.1. Why is this a problem despite the similar numbers?

- A. The numbers indicate only container size
- B. The two are identical fluids
- C. DOT 5 is silicone and DOT 5.1 is glycol-based; they are incompatible
- D. Brake fluid type has no effect

82. A vehicle's no-charge condition leaves the battery dead while driving. Which component's failure stops the battery from being recharged?

- A. The alternator failing to convert engine rotation to current
- B. The starter motor
- C. The catalytic converter
- D. The cabin air filter

83. A customer's vehicle could have two engines and the wrong part was sold. Which approach would have prevented the error?

- A. Confirming the engine via the VIN before selecting the part
- B. Assuming the more common engine
- C. Selling parts for both engines
- D. Declining to look up the part

84. A vehicle's rotor must be replaced because it is below the minimum thickness stamped on it. Why is resurfacing not an option?

- A. Resurfacing always improves a rotor
- B. The rotor diameter was wrong
- C. A rotor at or below minimum thickness cannot be safely machined further
- D. The pads were worn

85. A customer's special-order part was non-returnable, and they were upset at pickup. Which step would have prevented the dispute?

- A. Charging a higher price at pickup
- B. Returning the part to the supplier
- C. Disclosing the non-returnable terms before the order was placed
- D. Refusing to take special orders

## Answer Key & Explanations

1. C — A failed electric cooling fan not pulling air at low speed. Overheating at idle and in slow traffic but not at highway speed points to a failed cooling fan, since airflow at speed compensates for the missing fan. At low speed the fan must pull air through the radiator.

2. B — A thermostat stuck open, letting the engine run cool. A thermostat stuck open allows constant coolant flow, so the engine warms slowly and the heater is weak. A stuck-closed thermostat would instead cause overheating.

3. D — A failing battery overworking the alternator. A weak or failing battery overworks a new alternator and can cause it to fail again. This is why testing the battery is the recommended related step when selling an alternator.

4. D — The wear indicator contacting the rotor on worn pads. A constant squeal that quiets under harder braking is the wear indicator tab contacting the rotor, signaling worn pads. It is a built-in warning that the pads need replacement.

5. B — A CV joint, often due to a torn boot. A clicking noise only when turning on a front-wheel-drive car classically indicates a worn CV joint, frequently caused by a torn boot. The lost grease and contamination wear the joint.

6. D — The in-tank electric fuel pump. A crank-no-start with no audible pump priming points to the in-tank electric fuel pump. Without fuel delivery, the engine cranks but will not start.

7. D — It mismanages crankcase blow-by, causing oil consumption and rough running. A failed PCV valve mismanages crankcase blow-by gases, which can cause oil consumption, leaks, and rough running. Though inexpensive, it is a functional component.

8. B — A parasitic draw or charging-system fault. A new battery repeatedly going dead points to a parasitic draw or a charging-system fault, not the battery itself. The specialist should look beyond the battery for the cause.

9. A — The incompatible silicone fluid can compromise the braking system. DOT 5 silicone fluid is incompatible with the glycol DOT 3 system and can compromise braking. The two chemistries must never be mixed.

10. C — The wrong fluid failed to meet the transmission's specification. Harsh shifting after a service with a non-specified fluid means the fluid failed to meet the transmission's requirement. ATF is type-specific, and the wrong fluid causes shifting problems.

11. B — Worn steering components shifted the alignment angles. Worn tie rods left unaddressed shift the alignment angles, causing uneven inner-edge tire wear. This is why an alignment should follow steering-part replacement.

12. C — The noise is consistent with a worn wheel bearing. A growling noise that rises with speed and changes pitch in corners is classic for a worn wheel bearing, since cornering shifts the load. The cornering change confirms the bearing diagnosis.

13. C — Worn or missing hardware lets pads sit and move improperly. Omitting the hardware kit lets the pads sit and move improperly, causing squealing and uneven wear. The hardware is a required companion to a proper pad installation.

14. D — A worn belt tensioner failing to maintain tension. A serpentine belt squeal that fades as the engine warms often involves a worn tensioner failing to maintain proper tension. The tensioner wears alongside the belt.

15. D — TTY bolts are designed to stretch once and lose proper clamping when reused. Torque-to-yield head bolts stretch when first torqued and lose proper clamping force when reused, leading to a head gasket leak. New bolts should be used.

16. C — Incompatible coolant chemistries reacted and gelled. Mixing incompatible coolant chemistries can cause them to react and gel, leading to overheating. This is why the specified coolant type must be used.

17. A — Lost grease and contamination caused the joint to wear. A torn CV boot lets grease escape and contaminants enter, wearing the joint until it clicks. The boot is protective, not the noise source itself.

18. A — Touching the halogen bulb glass, leaving oils that cause hot spots. Touching a halogen bulb's glass leaves oils that create hot spots and shorten bulb life, causing repeated failures. The other listed conditions were correct, ruling them out.

19. C — The power steering pump or its belt. Intermittent loss of assist on a belt-driven hydraulic system points to the power steering pump or its belt. An electric system would have no pump.

20. B — The master cylinder bypassing internally. A pedal that slowly sinks under steady pressure indicates the master cylinder is bypassing internally. The fluid leaks past the internal seals rather than holding pressure.

21. C — A too-hot plug can cause pre-ignition or pinging. A spark plug with too hot a heat range can cause pre-ignition and pinging under acceleration. Matching the specified heat range prevents this.

22. D — Incompatible refrigerant can damage the system and is non-interchangeable. Using the wrong refrigerant can damage the A/C system, and refrigerants are non-interchangeable. The system's specified refrigerant must be used.

23. B — Weak return springs fail to pull the shoes back from the drum. Reusing weak return springs leaves the shoes dragging against the drum, causing overheating. The hardware kit should be replaced with the shoes.

24. D — A failed wheel speed sensor. A lost anti-lock function at one wheel with an ABS light most commonly traces to a failed wheel speed sensor. It reads the tone ring for that wheel.

25. D — A worn U-joint in the driveshaft. Vibration and clunking from the driveline on a rear-wheel-drive truck points to a worn U-joint in the driveshaft. CV joints belong to front-drive half shafts.

26. A — The collapsed hose disrupted the vacuum the system needs. A collapsed non-rated vacuum hose disrupts the vacuum the system relies on, causing a rough idle and check-engine light. The correct rated hose is required.

27. B — The cold cranking amps were below the requirement. Slow cranking in cold weather indicates the battery's cold cranking amps were below the vehicle's requirement. CCA must meet or exceed the specification.

28. A — A compressed used gasket rarely re-seals reliably. A reused valve cover gasket is already compressed and rarely re-seals, causing an oil leak. Gaskets should be replaced whenever a component is removed.

29. C — A non-compliant converter does not meet required emissions standards. A non-compliant replacement catalytic converter fails to meet the required emissions standards, causing a failed test. Replacement converters must meet applicable regulations.

30. A — Offset sets how the mounting face sits relative to the wheel centerline. Offset describes how the wheel's mounting face sits relative to its centerline, affecting clearance and handling. A wrong offset causes rubbing even at the correct diameter.

31. B — On an interference engine, pistons strike open valves when timing is lost. On an interference engine, a broken timing belt lets the pistons strike open valves, bending them. This is why timely belt replacement is critical.

32. B — An incorrectly rated cap fails to hold the pressure that raises the boiling point. The radiator cap maintains system pressure that raises the coolant's boiling point; a wrong cap fails to hold it, causing boil-over. The cap must match the pressure rating.

33. D — A CVT requires dedicated fluid, and ATF cannot perform its function. A CVT requires its dedicated fluid; conventional ATF cannot perform the belt-and-pulley function, causing overheating and slipping. The wrong fluid causes damage.

34. D — Air trapped in the hydraulic system. A spongy, soft pedal most commonly indicates air trapped in the hydraulic system. Air compresses where fluid would not, producing the soft feel.

35. A — The MAF measures incoming air the computer uses to meter fuel. A failed mass airflow sensor gives the computer wrong air data, so it cannot meter fuel correctly, running the engine lean. The MAF's measurement is central to fuel metering.

36. A — The starter solenoid engaging the starter. The starter solenoid switches the heavy current and engages the starter during cranking. A failure in this heavy-current path causes a no-start.

37. D — A worn wheel bearing under load. A hum and growl that worsen when the wheel is loaded in a turn point to a worn wheel bearing under load. The load-dependence is the diagnostic clue.

38. C — The oil lacked the friction modifier the LSD requires. A limited-slip differential chatters when the gear oil lacks the required friction modifier. The additive lets the clutch packs operate smoothly.

39. A — The proper heat range dissipates heat correctly, preventing pre-ignition. The correct heat-range plug dissipates heat at the right rate, preventing the pre-ignition that caused the spark knock. Matching the specified plug resolves it.

40. B — A warped or uneven rotor surface. A pulsation felt during stops most commonly comes from a warped or uneven rotor surface. The varying thickness causes the pedal to pulse.

41. B — Terminal cleaning tools and replacement terminals. Heavy terminal corrosion calls for terminal cleaning tools and replacement terminals alongside the battery. These address the cause of the corroded-connection no-start.

42. D — A clogged filter restricts fuel flow to the engine. A clogged fuel filter restricts fuel flow, causing the engine to surge and stall. The filter protects the system and must flow freely.

43. A — A sticking caliper applying unevenly at one wheel. A pull to one side only under braking points to a sticking caliper applying unevenly. The other listed components do not affect braking balance.

44. C — The trade number defines the correct bulb for the vehicle and position. The bulb trade number defines the correct bulb for the specific vehicle and position; the wrong number won't fit. It is not merely a brand or color identifier.

45. B — The head gasket seals coolant passages that can leak internally when it fails. The head gasket seals coolant passages, and its failure can leak coolant internally with no external sign. This explains coolant loss without a visible leak.

46. A — The idler pulley wears with the belt and routes it. The idler pulley routes the serpentine belt and wears alongside it, so leaving a worn one causes a new noise. It should be addressed with the belt.

47. C — A stuck-closed thermostat blocks coolant flow to the radiator. A thermostat stuck closed blocks coolant flow to the radiator, causing overheating. The thermostat regulates flow rather than heating, measuring, or pressurizing.

48. A — Sensors have finite batteries and may need replacement and relearning. TPMS sensors have sealed, finite batteries and may need replacement and relearning to the vehicle. This is why they require attention beyond mounting.

49. B — The oil failed to meet the required performance specification. Matching only viscosity while ignoring the required manufacturer approval leaves the oil failing the performance specification. Both viscosity and approval must match.

50. A — Glycol brake fluid is hygroscopic and absorbs moisture. Glycol brake fluid is hygroscopic, absorbing moisture over time, which lowers its boiling point. This is why it degrades and is periodically replaced.

51. D — A worn or scored flywheel prevents proper clutch engagement. Leaving a worn or scored flywheel during a clutch job prevents proper engagement, causing slipping. The flywheel should be inspected and resurfaced or replaced.

52. B — The engine air filter in the airbox. A neglected engine air filter leaves a dirty, restricted air path that reduces power. It cleans the air entering the engine.

53. B — Incomplete information leads to wrong-part errors. A wrong part traced to a phone order missing the trim level illustrates that incomplete information causes wrong-part errors. Gathering complete information prevents them.

54. D — It recirculates exhaust gas to lower combustion temperatures. The EGR valve recirculates exhaust gas to lower combustion temperatures and reduce emissions; a fault triggers emissions problems. The other functions belong to different components.

55. B — A leaking wheel cylinder contaminates the friction surface. A leaking wheel cylinder left in place contaminates the new shoes with fluid, ruining the friction surface. It should be replaced during the drum brake service.

56. A — The starter motor engaging the flywheel ring gear. The starter motor physically turns the engine over by engaging the flywheel ring gear. A no-crank traces to this component.

57. D — The engine information decoded from the VIN. The VIN's engine information resolves which injection type the specific engine uses. Tire size, paint code, and customer recollection do not determine it.

58. B — ATF transmits power and operates hydraulics, requiring the correct formulation. ATF transmits power through the torque converter and operates the hydraulic controls, so it must be the correct formulation. This is why ATF is type-specific.

59. B — It provides a pivoting connection allowing controlled suspension and steering movement. A ball joint provides a pivoting connection for controlled suspension and steering movement; when worn, it causes wandering and clunking. It is a critical wear and safety part.

60. D — It pressurizes and circulates the refrigerant. The compressor pressurizes and circulates the refrigerant through the sealed loop, making it the heart of the A/C system. A seized compressor stops the cooling cycle.

61. B — A higher-rated fuse defeats the protection, allowing wiring damage. Installing a higher-rated fuse defeats the circuit protection, allowing the wiring to be damaged. The correct fix is the same rating plus addressing the cause.

62. A — A coil-on-plug system mounts a coil on each plug, eliminating wires. A coil-on-plug engine mounts an individual coil on each plug, so there are no plug wires. The request signals a need to clarify the ignition system.

63. C — A too-thin rotor cannot dissipate heat and can overheat or crack. A rotor machined below its minimum thickness cannot dissipate heat properly and can overheat or crack. This is why the minimum-thickness spec must be honored.

64. A — Manufacturers dye different chemistries similar colors. Color is misleading because manufacturers dye different coolant chemistries similar colors. The specification, not the color, must guide selection.

65. D — The front and rear ratios must match to avoid binding. On an all-wheel-drive vehicle, the front and rear gear ratios must match; a mismatch causes driveline binding. The correct ratio must be confirmed before ordering.

66. D — The flooded battery did not meet the vehicle's charging and durability needs. A flooded battery in a vehicle requiring AGM may not meet the charging and durability needs, causing early failure. The battery type must match the specification.

67. C — The old number has been replaced by a current one. A supersession means the old part number has been replaced by a current one, which the catalog points to. The old number is not unavailable.

68. C — Notifying the customer promptly when it arrived. A special order that went uncollected because the customer wasn't told means the prompt-notification step was missed. Tracking includes notifying the customer on arrival.

69. A — A thermostat stuck open, allowing constant coolant flow. A thermostat stuck open allows constant coolant flow, so the engine runs cool and the heater is weak. A stuck-closed thermostat would cause overheating.

70. B — Pulling parts without a store-use record looks like missing stock. Store use without a record appears as missing stock at the next count, looking like shrinkage. Recording store-use keeps the count accurate.

71. D — Extend lines, subtotal, apply discount, then add tax. The correct invoice order is to extend each line, subtotal, apply the discount, then add tax. Applying tax before the discount produces an incorrect total.

72. B — Non-rated hose degrades under fuel and pressure, risking leaks and fire. Non-fuel-rated hose degrades under fuel and pressure, risking leaks and fire. Only properly fuel-rated hose is safe on a fuel line.

73. C — The actual build date, not the model year, governs a date-split part. When a catalog splits a part by production date, the actual build date governs, not the model year. Using the model year selects the wrong version.

74. C — Ceramic, quieter and cleaner for everyday driving. Ceramic brake pads are quieter and cleaner, fitting the customer's preference for everyday driving. Semi-metallic pads, by contrast, are noisier.

75. D — The front crankshaft seal. A leak around a rotating shaft at the front of the engine involves the front crankshaft seal. Gaskets, by contrast, seal stationary joints.

76. C — The footnote qualifying the part by ABS was overlooked. Selling a "with ABS" part for a non-ABS vehicle means the qualifying footnote was overlooked. Honoring footnotes prevents wrong-part errors.

77. A — They are regulated wastes requiring proper recycling. Used oil and antifreeze are regulated wastes requiring proper recycling, never the trash. Improper disposal carries legal and environmental penalties.

78. C — The aspect ratio as a percentage of width. In P215/60R16, the "60" is the aspect ratio — the sidewall height as a percentage of the section width. The 215 is width and the 16 is wheel diameter.

79. B — The oxygen sensor in the exhaust. The oxygen sensor monitors the exhaust oxygen content so the computer can adjust the fuel mixture. Its failure leaves the computer unable to read exhaust conditions.

80. A — It is part of the clutch kit and engages when the pedal is pressed. The release bearing is part of the clutch kit and engages when the pedal is pressed; omitting it causes a noise. It should be replaced with the disc and pressure plate.

81. C — DOT 5 is silicone and DOT 5.1 is glycol-based; they are incompatible. Despite the similar numbers, DOT 5 is silicone-based while DOT 5.1 is glycol-based, and they are incompatible. The exact specification must be matched.

82. A — The alternator failing to convert engine rotation to current. A no-charge condition that drains the battery while driving traces to the alternator failing to convert engine rotation into current. It is the charging-system component.

83. A — Confirming the engine via the VIN before selecting the part. When a vehicle could have two engines, confirming the engine via the VIN before selecting prevents a wrong-part error. Assuming or selling both is improper.

84. C — A rotor at or below minimum thickness cannot be safely machined further. A rotor at or below its minimum thickness cannot be safely machined further and must be replaced. A too-thin rotor can overheat and fail.

85. C — Disclosing the non-returnable terms before the order was placed. Disclosing the non-returnable terms before placing the special order would have prevented the dispute at pickup. The customer must agree with full knowledge.