PRACTICE EXAM 2: L1 SIMULATION — ADVANCED ENGINE PERFORMANCE SPECIALIST

1. The proper purpose of OBD-II live data is to:

A. Apply compressed air to the system

B. Provide real-time sensor and actuator values for diagnostic interpretation

C. Replace the PCM as a precaution

D. Filter contaminants from the system

2. The proper procedure for analyzing live data on the L1 case study format is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Visually inspect for visible damage only

D. Compare reported values to specifications, identify discrepancies

3. A vehicle's live data shows MAP at 100 kPa at idle (atmospheric pressure). The MOST likely cause is:

A. MAP sensor disconnected, hose disconnected, or sensor reporting incorrectly

B. Apply compressed air to the system

C. Replace the PCM as a precaution

D. Replace the brake fluid as the only step

4. The proper procedure for diagnosing MAP sensor accuracy is to:

A. Apply compressed air to the system

B. Replace the MAP as a precaution

C. Compare MAP reading at idle to spec, evaluate at varied vacuum, identify accuracy issue

D. Visually inspect for visible damage only

5. A vehicle's live data shows engine coolant temperature at -40°F (default value). The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the ECT sensor as a precaution

C. Replace the PCM as a precaution

D. Open ECT sensor circuit, returning default value

6. The proper procedure for diagnosing default sensor values is to:

A. Apply compressed air to the sensor

B. Verify the sensor circuit, identify open or short, address the cause

C. Replace the sensor as a precaution

D. Visually inspect for visible damage only

7. A vehicle's Mode 6 data shows oxygen sensor test results. The proper purpose of Mode 6 oxygen sensor data is to:

A. Apply compressed air to the system

B. Replace the sensor as a precaution

C. Provide test results showing sensor performance against test limits

D. Filter contaminants from the system

8. The proper procedure for interpreting Mode 6 oxygen sensor data is to:

A. Read test value, compare to test limit, evaluate sensor performance

B. Apply compressed air to the system

C. Replace the sensor as a precaution

D. Visually inspect for visible damage only

9. A vehicle's Mode 6 data shows oxygen sensor test value approaching limit. The MOST likely indication is:

A. Apply compressed air to the sensor

B. Replace the sensor as a precaution

C. Replace the PCM as a precaution

D. Sensor approaching failure threshold but not yet failed

10. The proper procedure for using Mode 6 data diagnostically is to:

A. Apply compressed air to the system

B. Identify approaching-limit data, perform additional testing, address the cause

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

11. A vehicle's secondary ignition oscilloscope pattern shows uniform firing voltage on cylinder 1 but elevated voltage on cylinder 4. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the spark plugs as a precaution

C. Worn spark plug, increased gap, or high resistance on cylinder 4 only

D. Replace the brake fluid as the only step

12. The proper procedure for analyzing secondary ignition patterns is to:

A. Compare pattern across all cylinders, identify anomalies, isolate the cause

B. Apply compressed air to the system

C. Replace the ignition coils as a precaution

D. Visually inspect for visible damage only

13. A vehicle's fuel injector waveform shows reduced peak current and prolonged turn-off voltage. The MOST likely cause is:

A. Apply compressed air to the injector

B. Replace the injector as a precaution

C. Replace the PCM as a precaution

D. Increased injector resistance from wear or contamination

14. The proper procedure for analyzing fuel injector waveforms is to:

A. Apply compressed air to the injector

B. Compare waveform across injectors, identify anomalies, evaluate operation

C. Replace the injectors as a precaution

D. Visually inspect for visible damage only

15. A vehicle's MAF sensor waveform shows clean signal at idle but choppy signal under acceleration. The MOST likely cause is:

A. Marginal sensor element, contamination, or wiring issue manifesting under high airflow

B. Apply compressed air to the sensor

C. Replace the MAF as a precaution

D. Replace the PCM as a precaution

16. The proper procedure for analyzing MAF waveforms is to:

A. Apply compressed air to the sensor

B. Replace the MAF as a precaution

C. Monitor signal at idle and under acceleration, evaluate quality, identify the cause

D. Visually inspect for visible damage only

17. A vehicle's oxygen sensor waveform shows sluggish switching (slow to transition between rich and lean). The MOST likely cause is:

A. Apply compressed air to the sensor

B. Replace the sensor as a precaution

C. Replace the PCM as a precaution

D. Aged oxygen sensor with reduced response time

18. The proper procedure for analyzing oxygen sensor waveforms is to:

A. Apply compressed air to the sensor

B. Monitor switching speed and amplitude, evaluate response, identify aging

C. Replace the sensor as a precaution

D. Visually inspect for visible damage only

19. A vehicle's CKP sensor waveform shows clean signal at low RPM but degraded signal at high RPM. The MOST likely cause is:

A. Marginal sensor or wiring issue manifesting at high RPM

B. Apply compressed air to the sensor

C. Replace the CKP as a precaution

D. Replace the PCM as a precaution

20. The proper procedure for analyzing CKP waveforms is to:

A. Apply compressed air to the sensor

B. Replace the CKP as a precaution

C. Monitor signal at varied RPM, evaluate signal quality, identify the cause

D. Visually inspect for visible damage only

21. The proper purpose of OBD-II monitor enabling criteria is to:

A. Apply compressed air to the system

B. Replace the PCM as a precaution

C. Replace the affected components as a precaution

D. Define the operating conditions required for a monitor to perform its diagnostic test

22. The proper procedure for verifying monitor enabling criteria is to:

A. Apply compressed air to the system

B. Reference manufacturer specifications, monitor scan data, verify criteria are met

C. Replace the PCM as a precaution

D. Visually inspect for visible damage only

23. A vehicle's catalyst monitor enabling criteria typically include:

A. Specific engine coolant temperature, specific RPM range, specific load conditions

B. Apply compressed air to the system

C. Replace the catalyst as a precaution

D. Replace the brake fluid as the only step

24. The proper procedure for completing a non-continuous monitor is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Follow the manufacturer drive cycle, verify criteria are met, allow monitor completion

D. Visually inspect for visible damage only

25. A vehicle's drive cycle requires sustained 35 mph cruising for 5 minutes. The MOST likely monitor being completed is:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Replace the PCM as a precaution

D. Catalyst monitor (typically requires sustained cruise condition)

26. The proper procedure for diagnosing a monitor that fails to complete is to:

A. Apply compressed air to the system

B. Verify enabling criteria, identify the blocking condition, address the cause

C. Replace the PCM as a precaution

D. Visually inspect for visible damage only

27. A vehicle's OBD-II readiness shows EVAP monitor not ready after multiple drive cycles. The MOST likely cause is:

A. EVAP monitor enabling criteria not being met (specific fuel level, ambient temp, or condition)

B. Apply compressed air to the system

C. Replace the EVAP system as a precaution

D. Replace the brake fluid as the only step

28. The proper procedure for completing the EVAP monitor is to:

A. Apply compressed air to the system

B. Replace the EVAP system as a precaution

C. Verify fuel level (typically 25-75% full), follow manufacturer drive cycle

D. Visually inspect for visible damage only

29. A vehicle's OBD-II readiness shows oxygen sensor monitor not ready. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the oxygen sensors as a precaution

C. Replace the PCM as a precaution

D. Oxygen sensor monitor enabling criteria not being met during driving

30. The proper procedure for completing the oxygen sensor monitor is to:

A. Apply compressed air to the system

B. Verify enabling criteria, follow manufacturer drive cycle, allow monitor completion

C. Replace the oxygen sensors as a precaution

D. Visually inspect for visible damage only

31. The proper purpose of fuel trim values is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Replace the PCM as a precaution

D. Indicate how much the PCM is correcting from base fuel calculation to maintain stoichiometric

32. The proper procedure for interpreting fuel trim values is to:

A. Read short-term and long-term values, evaluate at varied conditions, identify the cause

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

33. A vehicle's short-term fuel trim shows -15% and long-term fuel trim shows -10%. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Rich condition causing PCM to subtract fuel (faulty MAF, fuel pressure, injector issue)

D. Replace the brake fluid as the only step

34. The proper procedure for diagnosing rich fuel trim is to:

A. Apply compressed air to the system

B. Verify the concern, identify rich condition cause, address the cause

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

35. A vehicle's fuel trims show STFT +15% at idle but +5% at cruise. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Replace the PCM as a precaution

D. Vacuum leak that is significant at idle but minimal at cruise

36. The proper procedure for diagnosing condition-specific fuel trim is to:

A. Verify the concern, monitor trims at varied conditions, identify the cause

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

37. The proper purpose of long-term fuel trim is to:

A. Apply compressed air to the system

B. Replace the PCM as a precaution

C. Show the long-term average correction the PCM has learned for the system

D. Filter contaminants from the system

38. The proper procedure for resetting fuel trim values is to:

A. Apply compressed air to the system

B. Use scan tool to clear adaptive memory, perform drive cycle to relearn

C. Replace the PCM as a precaution

D. Visually inspect for visible damage only

39. A vehicle's idle speed is high (1,200 RPM) but PCM shows IAC commanded to 0% (closed). The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the IAC as a precaution

C. Replace the PCM as a precaution

D. Air leak bypassing IAC, throttle plate sticking open, or PCM control issue

40. The proper procedure for diagnosing high idle with closed IAC command is to:

A. Verify the concern, identify air bypass source, address the cause

B. Apply compressed air to the system

C. Replace the IAC as a precaution

D. Visually inspect for visible damage only

41. A vehicle's idle is rough with normal scan data, normal patterns, normal compression. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the spark plugs as a precaution

C. Mechanical issue not detected by OBD-II (valve operation, fuel injector mechanical condition)

D. Replace the brake fluid as the only step

42. The proper procedure for diagnosing mechanical idle issues is to:

A. Apply compressed air to the system

B. Verify the concern, perform mechanical testing, identify the cause

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

43. A vehicle's misfire counts show cylinder 3 misfire only at 2,500-3,000 RPM. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the spark plugs as a precaution

C. Replace the PCM as a precaution

D. RPM-specific issue (resonance, sensor signal, or component sensitivity)

44. The proper procedure for diagnosing RPM-specific misfire is to:

A. Verify the concern at the specific RPM, monitor scan data, identify the cause

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

45. A vehicle's MIL is illuminated, P0300 set, all cylinder misfire counts equal. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the spark plugs as a precaution

C. Common cause affecting all cylinders equally (fuel system, ignition power, ground)

D. Replace the brake fluid as the only step

46. The proper procedure for diagnosing equal multi-cylinder misfire is to:

A. Apply compressed air to the system

B. Verify the concern, identify common causes, address findings systematically

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

47. A vehicle has been brought in with: P0455 (gross EVAP leak), fuel cap properly tightened, smoke test reveals no leak, P0455 returns after clearing. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the EVAP system as a precaution

C. Replace the PCM as a precaution

D. Internal EVAP component fault (purge valve stuck, vent valve fault, sensor fault)

48. The proper procedure for diagnosing P0455 with no external leak is to:

A. Apply compressed air to the system

B. Replace the EVAP system as a precaution

C. Verify the concern, test individual EVAP components, identify the internal fault

D. Visually inspect for visible damage only

49. A vehicle has been brought in with: complaint of MIL on, P0440 (EVAP malfunction), normal smoke test, EVAP system functional during testing. The MOST likely cause is:

A. Intermittent EVAP fault, sensor issue, or DTC set under specific conditions

B. Apply compressed air to the system

C. Replace the EVAP system as a precaution

D. Replace the brake fluid as the only step

50. The proper procedure for diagnosing intermittent EVAP DTCs is to:

A. Apply compressed air to the system

B. Verify the concern, test under matching conditions, identify the cause

C. Replace the EVAP system as a precaution

D. Visually inspect for visible damage only

PRACTICE EXAM 2: L1 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

1. B — Provide real-time sensor and actuator values for diagnostic interpretation. Live data is the L1 candidate's primary tool for system analysis. Real-time values reveal current operating condition. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

2. D — Compare reported values to specifications, identify discrepancies. Live data analysis requires comparison to expected values. Discrepancies reveal where to focus diagnostic effort. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

3. A — MAP sensor disconnected, hose disconnected, or sensor reporting incorrectly. MAP at 100 kPa (atmospheric) at idle indicates sensor not reading manifold vacuum. Multiple causes can produce this default reading. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

4. C — Compare MAP reading at idle to spec, evaluate at varied vacuum, identify accuracy issue. MAP accuracy diagnosis requires comparison to specifications across conditions. Each condition has expected values. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

5. D — Open ECT sensor circuit, returning default value. -40°F is the default value when the sensor circuit is open. The PCM substitutes a default when it cannot read the sensor. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

6. B — Verify the sensor circuit, identify open or short, address the cause. Default sensor value diagnosis requires circuit verification. The fault must be identified and repaired. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

7. C — Provide test results showing sensor performance against test limits. Mode 6 oxygen sensor data shows performance metrics. The data reveals sensor condition before failure thresholds. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

8. A — Read test value, compare to test limit, evaluate sensor performance. Mode 6 interpretation requires comparison of test value to limit. The relationship reveals sensor condition. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

9. D — Sensor approaching failure threshold but not yet failed. Approaching limit indicates aging sensor. The sensor is still functional but degraded. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

10. B — Identify approaching-limit data, perform additional testing, address the cause. Mode 6 diagnostic use requires identification of marginal data plus additional testing. The data alone reveals only test results. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

11. C — Worn spark plug, increased gap, or high resistance on cylinder 4 only. Elevated single-cylinder firing voltage indicates cylinder-specific resistance. Each potential cause produces this pattern. *ASE Task Reference: L1 Domain C — Ignition System Diagnosis. Review subsection L.3.*

12. A — Compare pattern across all cylinders, identify anomalies, isolate the cause. Secondary pattern analysis requires comparison across cylinders. Anomalies reveal cylinder-specific issues. *ASE Task Reference: L1 Domain C — Ignition System Diagnosis. Review subsection L.3.*

13. D — Increased injector resistance from wear or contamination. Reduced peak current and prolonged turn-off voltage indicate increased injector resistance. The pattern reveals injector aging. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

14. B — Compare waveform across injectors, identify anomalies, evaluate operation. Injector waveform analysis requires comparison across injectors. Anomalies reveal individual injector condition. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

15. A — Marginal sensor element, contamination, or wiring issue manifesting under high airflow. Choppy signal under acceleration indicates load-specific issue. The high airflow triggers the marginal failure. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

16. C — Monitor signal at idle and under acceleration, evaluate quality, identify the cause. MAF waveform analysis requires verification under varied conditions. Each condition reveals different aspects. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

17. D — Aged oxygen sensor with reduced response time. Sluggish switching is the diagnostic signature of aged oxygen sensor. The sensor cannot respond to mixture changes quickly. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

18. B — Monitor switching speed and amplitude, evaluate response, identify aging. Oxygen sensor waveform analysis requires evaluation of multiple parameters. Each reveals different aspects of sensor condition. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

19. A — Marginal sensor or wiring issue manifesting at high RPM. Degraded high-RPM signal indicates load-specific issue. The high RPM triggers the marginal failure. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

20. C — Monitor signal at varied RPM, evaluate signal quality, identify the cause. CKP waveform analysis requires verification at varied RPM. Each speed reveals different aspects. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

21. D — Define the operating conditions required for a monitor to perform its diagnostic test. Monitor enabling criteria are the conditions for testing. Each monitor has specific requirements. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

22. B — Reference manufacturer specifications, monitor scan data, verify criteria are met. Enabling criteria verification requires manufacturer specifications. Scan data confirms whether criteria are being met. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

23. A — Specific engine coolant temperature, specific RPM range, specific load conditions. Catalyst monitor enabling criteria typically include these elements. Each must be met for the monitor to run. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

24. C — Follow the manufacturer drive cycle, verify criteria are met, allow monitor completion. Non-continuous monitor completion requires drive cycle execution. The criteria must be met during the cycle. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

25. D — Catalyst monitor (typically requires sustained cruise condition). Sustained cruising at moderate speed is typical catalyst monitor enabling. The conditions stabilize the catalyst for testing. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

26. B — Verify enabling criteria, identify the blocking condition, address the cause. Failed monitor diagnosis requires criteria verification. The blocking condition must be identified. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

27. A — EVAP monitor enabling criteria not being met (specific fuel level, ambient temp, or condition). EVAP monitor incompletion has specific criteria causes. Fuel level is a common factor. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

28. C — Verify fuel level (typically 25-75% full), follow manufacturer drive cycle. EVAP monitor completion requires specific fuel level. The level must be within the testing range. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

29. D — Oxygen sensor monitor enabling criteria not being met during driving. O2 sensor monitor requires specific conditions. Each must be met during driving. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

30. B — Verify enabling criteria, follow manufacturer drive cycle, allow monitor completion. Oxygen sensor monitor completion requires criteria verification and drive cycle. Each condition must be met. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

31. D — Indicate how much the PCM is correcting from base fuel calculation to maintain stoichiometric. Fuel trim values reveal PCM compensation. The trim direction and magnitude indicate fuel system condition. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

32. A — Read short-term and long-term values, evaluate at varied conditions, identify the cause. Fuel trim interpretation requires evaluation of both terms across conditions. Each reveals different aspects. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

33. C — Rich condition causing PCM to subtract fuel (faulty MAF, fuel pressure, injector issue). Negative fuel trim indicates rich condition requiring PCM compensation. Multiple causes can produce rich. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

34. B — Verify the concern, identify rich condition cause, address the cause. Rich fuel trim diagnosis requires identification of the rich source. Each cause produces rich through different mechanisms. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

35. D — Vacuum leak that is significant at idle but minimal at cruise. STFT high at idle but low at cruise indicates idle-specific leak. The leak's effect depends on engine vacuum. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

36. A — Verify the concern, monitor trims at varied conditions, identify the cause. Condition-specific fuel trim diagnosis requires monitoring at varied conditions. The variation reveals when the issue is significant. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

37. C — Show the long-term average correction the PCM has learned for the system. Long-term fuel trim represents adaptive learning. The value reflects the system's average condition over time. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

38. B — Use scan tool to clear adaptive memory, perform drive cycle to relearn. Fuel trim reset requires scan tool function. The drive cycle allows the PCM to relearn proper values. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

39. D — Air leak bypassing IAC, throttle plate sticking open, or PCM control issue. High idle with closed IAC command indicates air bypass. Multiple causes can produce this condition. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

40. A — Verify the concern, identify air bypass source, address the cause. High idle diagnosis requires identification of the air bypass source. The IAC alone cannot account for high idle. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

41. C — Mechanical issue not detected by OBD-II (valve operation, fuel injector mechanical condition). Rough idle with normal data indicates mechanical issue outside OBD-II scope. OBD-II cannot detect all mechanical issues. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

42. B — Verify the concern, perform mechanical testing, identify the cause. Mechanical idle diagnosis requires testing outside OBD-II. Each test reveals different mechanical conditions. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

43. D — RPM-specific issue (resonance, sensor signal, or component sensitivity). RPM-specific misfire indicates condition-specific issue. The specific RPM range triggers the symptom. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

44. A — Verify the concern at the specific RPM, monitor scan data, identify the cause. RPM-specific misfire diagnosis requires symptom-matching RPM. The fault must be observed at the specific condition. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

45. C — Common cause affecting all cylinders equally (fuel system, ignition power, ground). Equal multi-cylinder misfire indicates a common cause. Individual cylinder issues do not produce equal counts. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

46. B — Verify the concern, identify common causes, address findings systematically. Equal multi-cylinder misfire diagnosis requires identification of common causes. The shared cause must be addressed. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

47. D — Internal EVAP component fault (purge valve stuck, vent valve fault, sensor fault). P0455 with negative smoke test indicates internal fault. External testing cannot detect internal valve or sensor faults. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

48. C — Verify the concern, test individual EVAP components, identify the internal fault. Internal EVAP diagnosis requires component-specific testing. Each component can produce internal faults. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

49. A — Intermittent EVAP fault, sensor issue, or DTC set under specific conditions. P0440 with normal current testing indicates intermittent issue. The fault occurred at a different operating condition. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

50. B — Verify the concern, test under matching conditions, identify the cause. Intermittent EVAP DTC diagnosis requires symptom-matching conditions. The fault must be observed when it occurs. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*