

PRACTICE EXAM 13: ASE T8 PMI

SIMULATION

1. A technician inspecting a commercial vehicle's alternator belt finds the belt running off-center on the pulleys. The most likely cause is:

- A. Normal belt positioning during operation
- B. Driver technique affecting belt alignment
- C. Pulley misalignment or worn tensioner
- D. Belt tension set below manufacturer specification

2. The correct action when a commercial vehicle's air brake chamber shows visible corrosion on the clamp band is:

- A. Apply rust converter to the surface
- B. Evaluate structural integrity and replace if compromised
- C. Paint over the corroded area for protection
- D. Continue service with monitoring at next interval

3. A Class 8 tractor's driver reports that the cab vibrates at highway speeds but is smooth at lower speeds. The most likely cause is:

- A. Road surface affecting vehicle at all operating speeds
- B. Normal cab vibration during highway operation
- C. Engine mount wear producing consistent vibration
- D. Wheel imbalance, tire damage, or driveshaft issue

4. The correct procedure for inspecting a commercial vehicle's fifth wheel jaws is to:

- A. Visual inspection for wear, cracks, and proper jaw closure
- B. Apply grease and rotate jaws to test operation
- C. Measure jaw opening with precision calipers
- D. Remove jaws for bench inspection during PMI

5. A driver reports that the engine exhibits a loss of power only during heavy loads. Normal operation is unaffected. The most likely cause is:

- A. Normal engine behavior under maximum load demand
- B. Driver technique during heavy-load operation
- C. Fuel restriction, turbocharger issue, or air filter problem
- D. Engine management system requiring calibration update

6. The correct interpretation of a commercial vehicle's brake fluid reservoir with a cracked cap is:

- A. Apply sealant to the crack for continued service
- B. Replace the cracked cap before return to service
- C. Monitor the cap at the next service interval
- D. Continue service if no fluid loss is visible

7. A technician performing PMI finds that a tractor's rear axle gear oil has a burnt odor. The correct action is:

- A. Add gear oil additive to restore performance
- B. Continue service with monitoring
- C. Apply axle lubricant to dilute concentration

D. Drain, flush, and refill with specified oil

8. The correct procedure for verifying a commercial vehicle's clutch free play is to:

A. Measure pedal movement before encountering resistance

B. Apply maximum pedal pressure and observe position

C. Compare to another vehicle of the same specification

D. Measure pedal return speed after release

9. A Class 8 tractor's driver reports that the engine produces white smoke during sustained operation. The engine temperature is normal. The most likely cause is:

A. Normal diesel exhaust during sustained cruise

B. Driver technique affecting combustion characteristics

C. Coolant leak, fuel injection problem, or combustion issue

D. Extended service interval affecting fuel quality

10. The correct interpretation of a commercial vehicle's steering wheel that exhibits free play of 3 inches on a 20-inch wheel is:

A. Normal steering wheel play during operation

B. Excessive play requiring steering system diagnostic

C. Within specification for heavy-duty trucks

D. Driver technique error during steering input

11. A technician inspecting a tractor's brake hoses finds one hose showing a visible bulge under system pressure. The correct action is:

- A. Replace the damaged hose before return to service
- B. Apply hose repair tape to contain the bulge
- C. Reduce system pressure to minimize stress
- D. Monitor the bulge at the next service interval

12. The correct procedure for testing a commercial vehicle's starter circuit is to:

- A. Replace the starter assembly at scheduled intervals
- B. Measure voltage at the battery with engine off only
- C. Visual inspection of starter mounting and wiring
- D. Measure voltage drop across cables and connections during cranking

13. A driver reports that the trailer brakes apply with a noticeable delay compared to the tractor brakes. The most likely cause is:

- A. Normal trailer brake response during operation
- B. Restricted service line or failed relay valve at trailer
- C. Driver technique during brake application
- D. Tractor brake signal producing delayed response

14. The correct interpretation of a commercial vehicle's fuel filter water separator bowl with visible water is:

- A. Water separator failure requiring immediate replacement
- B. Fuel contamination requiring system decontamination

- C. Normal operation — drain water and monitor
- D. Fuel tank corrosion producing water accumulation

15. A Class 8 tractor has visible oil leaking from the rear main seal. The correct action is:

- A. Schedule seal replacement and investigate CCV system
- B. Apply engine oil stop-leak additive during service
- C. Continue service if leak rate is minimal
- D. Monitor the leak at the next service interval

16. The correct method for inspecting a commercial vehicle's tires for condition is to:

- A. Measure tire diameter with a precision tape measure
- B. Visual inspection of sidewall only during PMI
- C. Replace tires at scheduled intervals regardless of wear
- D. Inspect tread depth, sidewall, inflation, and overall condition

17. A technician finds that a commercial vehicle's engine cooling fan does not engage at operating temperature. The most likely cause is:

- A. Normal fan behavior during cooler ambient conditions
- B. Failed fan clutch, control module, or wiring problem
- C. Driver technique affecting fan operation
- D. Engine temperature sensor requiring calibration

18. The correct procedure for verifying a commercial vehicle's brake chamber pushrod stroke is to:

- A. Visual estimation during brake application
- B. Measurement at any convenient pressure level
- C. Mark pushrod, apply at 90-100 psi, measure stroke
- D. Compare stroke to adjacent chamber without specification

19. A Class 8 tractor's driver reports that the engine stalls intermittently at idle but runs normally at elevated RPM. The most likely cause is:

- A. Driver technique affecting idle operation
- B. Normal engine behavior during cold-weather operation
- C. Transmission torque converter producing idle stall
- D. Idle speed control, fuel system, or air leak problem

20. The correct interpretation of a commercial vehicle's brake pedal that travels excessively before engaging is:

- A. Possible brake system problem requiring diagnostic investigation
- B. Normal pedal travel during hydraulic system operation
- C. Driver technique error during brake application
- D. Brake pad wear within acceptable service limits

21. A technician inspecting a tractor's 7-way trailer connector finds corroded pin contacts. The correct action is:

- A. Apply contact cleaner only and reconnect
- B. Clean contacts, inspect for damage, apply dielectric grease

- C. Replace the complete connector assembly
- D. Continue service if trailer lights operate

22. The correct interpretation of a commercial vehicle's engine oil that shows a honey color on the dipstick is:

- A. Contaminated oil requiring immediate replacement
- B. Normal new oil appearance before operation
- C. Fuel dilution producing color change
- D. Fresh oil recently installed, not yet darkened by soot

23. A driver reports that the A/C system produces cold air that gradually loses cooling capacity over 30 minutes. The most likely cause is:

- A. Evaporator icing, refrigerant issue, or compressor problem
- B. Normal A/C behavior during extended operation
- C. Driver setting affecting A/C performance
- D. Cabin air filter restriction reducing airflow

24. The correct procedure for inspecting a commercial vehicle's windshield wipers is to:

- A. Measure wiper blade pressure with a gauge
- B. Replace wiper blades at each annual inspection
- C. Activate wipers during water application to verify function
- D. Visual inspection of blade condition only

25. A Class 8 tractor's engine produces a persistent knocking sound that does not change with RPM. The most likely cause is:

- A. Normal diesel engine combustion sound
- B. Internal engine wear requiring diagnostic investigation
- C. Exhaust manifold leak producing characteristic sound
- D. Turbocharger bearing approaching failure

26. The correct interpretation of a commercial vehicle's coolant reservoir showing rust-colored fluid is:

- A. Normal coolant color for extended service life
- B. Proper conventional coolant appearance
- C. SCA contamination producing color change
- D. Corrosion in the cooling system requiring flush and refill

27. A technician performing PMI finds that a tractor's power steering fluid is dark with a burnt odor. The correct action is:

- A. Drain, flush, and refill with specified fluid
- B. Add fluid conditioner to restore performance
- C. Continue service with monitoring
- D. Apply fluid treatment to dissolve contamination

28. The correct procedure for checking a commercial vehicle's dashboard warning lamps is to:

- A. Disconnect each lamp for bench testing
- B. Replace lamps at each annual inspection
- C. Observe prove-out cycle when key is turned to run

D. Measure voltage at each lamp terminal

29. A Class 8 tractor's driver reports difficulty releasing the parking brake after extended parking in cold weather. The most likely cause is:

A. Brake shoes frozen to drums or moisture in brake system

B. Normal cold-weather parking brake behavior

C. Driver technique during brake release

D. Parking brake control switch malfunction

30. The correct interpretation of a commercial vehicle's engine that requires extended cranking in cold weather is:

A. Normal diesel engine cold-start behavior

B. Driver technique requiring adjustment

C. Engine control module requiring update

D. Cold-start component problem: heater, glow plugs, or fuel

31. A technician inspecting a tractor's drive axle finds evidence of thrown lubricant on the underside of the housing. The most likely cause is:

A. Normal axle breather operation during service

B. Incorrect lubricant level above fill plug

C. External contamination from road spray

D. Axle seal failure, breather problem, or overfill

32. The correct procedure for verifying a commercial vehicle's air brake system leak rate is to:

- A. Operate engine during test for continuous pressure
- B. Test at partial pressure for safety considerations
- C. Full pressure, engine off, measure decay over one minute
- D. Visual observation of pressure gauge only

33. A driver reports that the transmission produces a grinding sound only during specific shifts. The most likely cause is:

- A. Normal transmission operation during varying shifts
- B. Worn synchronizer at the specific gear position
- C. Driver technique during the specific shift
- D. Transmission fluid requiring replacement

34. The correct interpretation of a commercial vehicle's engine with visible oil leaks at multiple gasket locations is:

- A. Normal oil seepage at the service mileage
- B. Elevated crankcase pressure from CCV failure
- C. Extended service interval affecting gasket condition
- D. Multiple gasket failures requiring complete replacement

35. A Class 8 tractor's brake chamber shows an audible air leak from the breather vent. The most likely cause is:

- A. Failed diaphragm allowing air to bypass seal
- B. Normal chamber operation with breather function

- C. Excessive system pressure affecting chamber
- D. Driver technique producing apparent leak

36. The correct procedure for inspecting a commercial vehicle's exhaust system is to:

- A. Remove components for bench testing
- B. Run engine with exhaust disconnected
- C. Visual inspection for damage, leaks, and secure mounting
- D. Replace exhaust hangers at annual service

37. A technician performing PMI finds a commercial vehicle's spare tire with visible age-related cracking on the sidewall. The correct action is:

- A. Inflate to specification and continue service
- B. Replace the spare tire if deterioration is evident
- C. Store the spare indoors to prevent aging
- D. Apply rubber conditioner to affected areas

38. The correct interpretation of a commercial vehicle's exhaust system with blue discoloration on the manifold is:

- A. Normal manifold color at operating temperature
- B. Paint removal during previous service
- C. Chemical staining from exhaust additives
- D. Sustained operation at excessive temperatures

39. A Class 8 tractor's driver reports reduced fuel economy without changes in operation. The correct initial investigation is:

- A. Driver training for economical driving
- B. Engine management system reprogramming
- C. Air filter, fuel filter, and aftertreatment condition
- D. Tire alignment and bearing inspection

40. The correct procedure for testing a commercial vehicle's battery capacity is:

- A. Load test at half CCA for 15 seconds, above 9.6V at 70°F
- B. Voltage measurement at rest only
- C. Visual inspection of case condition
- D. Electrolyte specific gravity test only

41. A technician inspecting a tractor's fuel tank finds visible damage to the mounting straps with corrosion. The correct action is:

- A. Replace damaged straps before return to service
- B. Apply rust converter and continue service
- C. Monitor the damage at next service interval
- D. Support the tank with temporary bracing

42. The correct interpretation of a commercial vehicle's automatic transmission fluid with dark brown color and burnt odor is:

- A. Normal fluid color at service interval
- B. Fresh fluid recently installed in the transmission

- C. Transmission overheating or internal wear
- D. Fluid additive causing color change

43. A driver reports that the steering produces noise during parking maneuvers but operates quietly at highway speeds. The most likely cause is:

- A. Normal steering noise during parking
- B. Power steering issue: low fluid, pump wear, or aerated fluid
- C. Driver technique during low-speed maneuvers
- D. Tire scrubbing against road surface

44. The correct procedure for inspecting a commercial vehicle's wheel rims is to:

- A. Remove rims for dye-penetrant testing
- B. Measure rim diameter with precision instrument
- C. Replace rims at scheduled intervals
- D. Visual inspection for cracks, bends, and corrosion

45. A Class 8 tractor's driver reports that the vehicle wanders during highway operation when lightly loaded. The most likely cause is:

- A. Driver technique during light-load operation
- B. Normal handling at less than rated weight
- C. Steering component wear or alignment problem
- D. Tire pressure affecting tracking only at light loads

46. The correct interpretation of a commercial vehicle's engine with an unusual rattle at specific RPM ranges is:

- A. Normal engine operation at all RPM ranges
- B. Loose component or mount producing RPM-specific noise
- C. Driver technique affecting engine operation
- D. Engine control module requiring calibration

47. A technician inspecting a tractor's brake drums finds heat checking on the friction surface. The correct action is:

- A. Evaluate severity — light checking may be acceptable
- B. Continue service since checking is cosmetic
- C. Apply drum-surfacing compound to repair
- D. Machine drums to remove the surface cracks

48. The correct procedure for verifying a commercial vehicle's fire extinguisher compliance is to:

- A. Weigh the extinguisher to verify full charge
- B. Discharge briefly to verify operation
- C. Replace the extinguisher at annual inspection
- D. Check mounting, gauge, pin, seal, and inspection tag

49. A Class 8 tractor's driver reports that the coolant temperature gauge fluctuates between normal and low during operation. The most likely cause is:

- A. Normal coolant temperature variation during operation
- B. Intermittent thermostat operation or sensor problem
- C. Driver monitoring error during operation
- D. Coolant temperature sensor calibration issue

50. The correct interpretation of a commercial vehicle's brake pedal that feels spongy during application is:

- A. Normal pedal feel during initial application
- B. Driver technique during brake application
- C. Air in hydraulic system or contaminated brake fluid
- D. Brake component wear producing reduced feel

PRACTICE EXAM 13: ANSWER KEY AND EXPLANATIONS

1. C — A belt running off-center on the pulleys indicates pulley misalignment or worn tensioner allowing lateral belt movement. The pulley grooves are designed to hold the belt in proper alignment; misalignment produces the off-center operation that accelerates belt wear and may lead to belt slippage or failure.
2. B — A brake chamber clamp band with visible corrosion requires evaluation for structural integrity, with replacement if corrosion has compromised the band's function. The clamp band contains spring energy and must maintain structural integrity. Rust converters, paint, and continued service ignore the safety-critical assessment of whether corrosion affects function.
3. D — Cab vibration at highway speeds that is smooth at lower speeds typically indicates wheel imbalance, tire damage, or driveshaft issues. Rotational forces from imbalance scale with speed squared, producing symptoms only at and above threshold speeds. Investigation identifies the specific rotating component requiring service.
4. A — Fifth wheel jaw inspection is a visual procedure examining for wear, cracks, and proper jaw closure. The visual inspection identifies conditions that affect coupling reliability. Grease application testing, precision measurement, and removal for bench inspection are not standard PMI procedures for jaw condition.
5. C — Power loss only during heavy loads indicates fuel restriction, turbocharger issue, or air filter problem that shows up under maximum demand but is masked during normal operation. The system cannot deliver full capacity when loaded. Investigation targets these systems to identify the specific restriction.
6. B — A cracked brake fluid reservoir cap must be replaced before the vehicle returns to service. The cap provides a sealed pressure boundary for the reservoir; cracks compromise this seal and allow contamination ingress plus potential fluid loss. Sealants, monitoring, and continued service do not restore the cap's structural integrity.
7. D — Gear oil with a burnt odor indicates thermal breakdown or contamination requiring drain, flush, and refill with specified oil. The burnt smell reflects loss of lubricating properties; continued use accelerates internal wear. Additives, continued service, and oil dilution do not address the underlying chemistry failure.
8. A — Clutch free play is measured by determining the distance the clutch pedal travels before encountering hydraulic resistance. This is the range of motion that produces no clutch engagement

action. Maximum pressure measurement, vehicle comparison, and return speed testing are not the correct free play measurement technique.

9. C — White smoke during sustained operation with normal engine temperature typically indicates coolant leak into combustion chambers, fuel injection problems, or combustion issues. Coolant produces the characteristic white color when vaporized in the combustion chamber. Investigation identifies the specific source of the white smoke.
10. B — Steering wheel free play of 3 inches on a 20-inch wheel represents 15% of the wheel diameter — well above the 10% maximum (2 inches) allowed by Appendix G. This is excessive free play requiring diagnostic investigation of the steering system to identify and correct the specific wear source.
11. A — A brake hose showing a visible bulge under system pressure indicates internal reinforcement failure and must be replaced before the vehicle returns to service. The bulge is a precursor to hose rupture, which would produce complete brake system failure. Repair tape, pressure reduction, and monitoring do not address the structural failure.
12. D — Starter circuit testing uses voltage drop measurements across cables and connections during cranking. This identifies high-resistance connections that reduce the current available to the starter motor. Simple voltage readings at the battery, scheduled replacement, and visual inspection do not identify the specific resistive connection.
13. B — Delayed trailer brake application with normal tractor response typically indicates a restricted service brake signal line or failed relay valve at the trailer. The signal reaches the trailer chambers slowly, producing the delay. Investigation focuses on the signal delivery path and relay valve operation.
14. C — Water in the fuel filter water separator bowl represents normal operation — the separator's purpose is to capture water before it reaches the injectors. The correct action is to drain the water and monitor for recurring accumulation. Normal water accumulation does not indicate contamination or separator failure.
15. A — A rear main seal oil leak requires scheduled replacement and investigation of the CCV system, because elevated crankcase pressure from CCV restriction commonly causes rear main seal failure. Addressing only the seal without the CCV root cause produces repeat failures. Stop-leak additives and monitoring do not address the underlying problem.
16. D — Tire inspection covers tread depth, sidewall condition, inflation pressure, and overall condition. This comprehensive inspection identifies all the conditions that affect tire safety and performance. Single-parameter measurements, scheduled replacement, and visual-only inspection do not provide complete assessment.
17. B — A cooling fan that does not engage at operating temperature indicates a failed fan clutch, control module, or wiring problem. The fan should engage progressively as coolant temperature

rises; failure to engage produces cooling system overheating under load. Investigation identifies the specific cause.

18. C — Brake chamber pushrod stroke measurement is performed by marking the pushrod, applying brakes at 90-100 psi, and measuring the stroke distance. This standardized procedure produces consistent, comparable measurements. Visual estimation, variable pressures, and chamber comparison without specification are not reliable methods.
19. D — Intermittent engine stalling at idle with normal operation at elevated RPM typically indicates idle speed control problems, fuel system issues, or air leaks affecting only idle conditions. At higher RPM, the engine control system compensates for minor problems that produce stall-related conditions at idle.
20. A — A brake pedal that travels excessively before engaging indicates a possible brake system problem requiring diagnostic investigation. Possible causes include air in the hydraulic system, worn components, or fluid problems. The condition is not normal and requires investigation to identify the specific cause.
21. B — Corroded 7-way connector pin contacts require cleaning, damage inspection, and application of dielectric grease for protection. This restores reliable electrical contact while protecting against future corrosion. Contact cleaner alone, complete replacement, and continued operation do not provide the full service needed.
22. D — Honey-colored engine oil indicates fresh oil recently installed in the engine that has not yet been darkened by soot accumulation. New diesel engine oil has this characteristic light amber color; normal operation produces progressive darkening as soot and oxidation products accumulate. The color indicates recent service.
23. A — An A/C system that produces cold air initially but gradually loses cooling capacity typically indicates evaporator icing, refrigerant charge issues, or compressor problems producing cyclical capacity loss. The icing progressively restricts airflow; refrigerant issues produce inconsistent performance; compressor problems produce variable output.
24. C — Windshield wiper inspection is best performed by activating wipers during a water application to verify wet-condition operation. Dry glass testing can damage wiper blades and doesn't represent actual operating conditions. The water test confirms the wipers effectively clear the windshield when needed.
25. B — A persistent knocking sound that does not change with engine RPM indicates internal engine wear requiring diagnostic investigation. Possible causes include bearing wear, rod or piston problems, or other internal damage. RPM-independent knocking is not normal combustion; investigation identifies the specific source before progression.
26. D — Rust-colored coolant reservoir fluid indicates corrosion in the cooling system requiring flush and refill with the specified coolant. The color shows that coolant chemistry has degraded and

allowed corrosion products to accumulate. Normal coolants are clear and brightly colored in their specified hue.

27. A — Power steering fluid that is dark with a burnt odor requires drain, flush, and refill with specified fluid. The burnt fluid has lost its lubricating and sealing properties; continued use accelerates pump and system wear. Fluid conditioners, continued service, and treatments do not address the chemistry failure.
28. C — Dashboard warning lamp function is verified by observing the prove-out cycle when the ignition key is turned to the run position. During prove-out, all warning lamps illuminate briefly to confirm bulb function, then extinguish. Bench testing, scheduled replacement, and voltage-only measurement do not verify actual prove-out function.
29. A — Difficulty releasing the parking brake after extended cold-weather parking typically indicates brake shoes frozen to drums or moisture in the brake system. Moisture freezes between friction surfaces or within brake components, producing the sticking. The condition is addressable through thawing or moisture removal before normal operation.
30. D — Extended cranking in cold weather typically indicates a cold-start component problem: intake heater malfunction, glow plug issues (where equipped), or fuel system problems. These conditions prevent the combustion chamber from reaching the temperature needed for proper diesel combustion in cold conditions.
31. D — Thrown lubricant on the underside of an axle housing indicates axle seal failure, breather problem, or overfilled lubricant level. Each produces a different pattern of lubricant loss, but all require investigation to identify the source. Normal breather operation, external contamination, and acceptable conditions do not produce thrown lubricant patterns.
32. C — Air brake leak testing requires full system pressure, engine off, with decay measured over one minute. Engine-off prevents compressor refilling from masking leaks; full pressure tests the system at normal operating conditions. Partial pressure, engine-on, and visual observation produce inaccurate or invalid results.
33. B — Grinding noise during specific shifts typically indicates a worn synchronizer at that specific gear position. Different synchronizers handle different shifts, and wear in one doesn't affect others. The condition requires transmission service at the specific synchronizer showing wear.
34. B — Oil leaks at multiple gasket locations simultaneously indicate elevated crankcase pressure from CCV failure. The pressure forces oil past seals and gaskets throughout the engine. Replacing the seals without addressing the CCV root cause produces repeat failures; CCV investigation identifies the underlying problem.
35. A — Air leaking from a brake chamber breather vent during operation indicates a failed diaphragm allowing air to bypass the main seal and escape through the non-pressurized side. The diaphragm

is the dynamic seal between the pressurized and non-pressurized sections; its failure requires chamber replacement.

36. C — Commercial vehicle exhaust system inspection is a visual procedure examining for damage, leaks, and secure mounting at all points. This identifies the conditions that affect exhaust system integrity and performance. Component removal, exhaust-disconnected operation, and scheduled replacement are not standard PMI procedures.
37. B — A spare tire with visible age-related deterioration should be replaced if deterioration is evident. A spare is safety equipment meant for use when needed; a deteriorated spare fails to provide this protection. Inflation alone, indoor storage, and conditioners do not restore structural integrity to aged rubber.
38. D — Blue discoloration on the exhaust manifold indicates sustained operation at temperatures exceeding the manifold's thermal design. The thermal color change is characteristic of elevated temperatures. Common causes include sustained heavy load, exhaust restrictions, lean combustion, or other factors producing high exhaust temperatures.
39. C — Reduced fuel economy without operational changes requires initial investigation of air filter condition, fuel filter status, and aftertreatment system performance. Restrictions in these systems reduce combustion efficiency and fuel economy. Driver training, ECM reprogramming, and tire/alignment factors are secondary considerations.
40. A — Battery capacity testing uses load testing at half the battery's cold cranking amp (CCA) rating for 15 seconds. At 70°F, the voltage must remain above 9.6 volts for the battery to pass. This test reveals capacity issues that simple voltage measurements cannot detect; visual inspection and hydrometer tests measure different parameters.
41. A — Damaged fuel tank mounting straps with corrosion must be replaced before the vehicle returns to service. The straps secure the tank against road forces and vibration; compromised straps can allow tank movement, hose damage, or fuel release. Rust converters, monitoring, and temporary bracing do not restore structural integrity.
42. C — Automatic transmission fluid with dark brown color and burnt odor indicates transmission overheating or extensive internal wear. The discolored fluid has lost its functional properties and reflects transmission stress beyond normal service. The condition requires transmission service including fluid replacement and internal inspection.
43. B — Steering noise during parking maneuvers but not at highway speeds typically indicates power steering issues: low fluid level, pump wear, or aerated fluid producing noise under high-demand low-speed conditions. Parking requires maximum hydraulic assistance, revealing pump weaknesses. Tire scrubbing produces a different character of sound.

44. D — Wheel rim inspection is a visual procedure examining for cracks, bends, and corrosion. These visual findings identify rim problems affecting tire retention and vehicle safety. Dye-penetrant testing, precision measurement, and scheduled replacement are not standard PMI procedures.
45. C — Wandering during highway operation when lightly loaded typically indicates steering component wear or alignment problems. Light loads don't provide the damping that would mask minor wear at higher loads. Investigation of steering components and alignment identifies the specific wear source requiring correction.
46. B — An unusual rattle at specific RPM ranges typically indicates a loose component or mount producing RPM-specific resonance. At other RPM ranges, the frequency is different and the rattle disappears. Common causes include loose heat shields, brackets, or mounting hardware that vibrates at specific frequencies.
47. A — Heat checking on brake drum friction surfaces requires evaluation of severity. Light heat checking may be acceptable for continued service; severe checking indicates drum end of life requiring replacement. Continued service without evaluation, surfacing compounds, and unlimited machining are not appropriate without severity assessment.
48. D — Fire extinguisher compliance inspection checks mounting security, pressure gauge reading, pin and seal condition, and current annual inspection tag. All four factors must be verified for compliance. Weight measurement, discharge testing, and scheduled replacement are not standard PMI procedures.
49. B — A coolant temperature gauge fluctuating between normal and low typically indicates intermittent thermostat operation or sensor problems. A healthy thermostat maintains consistent temperature; intermittent function allows temperature to drop when it opens unexpectedly. Normal variation, monitoring errors, and calibration issues produce different patterns.
50. C — A spongy brake pedal during application indicates air in the hydraulic system or contaminated brake fluid. Air is compressible while fluid is not; air in the system produces the characteristic spongy feel. The condition requires bleeding and possibly fluid replacement to restore proper brake response.