PRACTICE EXAM 18: MAINTAINER'S HELPER - GROUP B SIMULATION (150 QUESTIONS)

This practice simulation contains 150 questions covering Tool Usage, Automotive Theory, Electrical Equipment, Written Comprehension, Written Expression, Deductive Reasoning, Inductive Reasoning, Information Ordering, Number Facility, Spatial Orientation, and Mechanical Aptitude. The official notice does not publish a fixed public item count, time limit, or passing score for this practice set. Use a self-timed session, mark one answer per question, and review the explanations after completing the set. This is independent preparation material, not an official MTA examination or simulator.

1. At the diagnostic bench, which sentence places the modifier clearly?

A. The technician measured, using a meter the circuit voltage.
B. Using a meter, the technician measured the circuit voltage.
C. Using a meter, the circuit voltage was measured by the technician.
D. The circuit voltage, using a meter, measured the technician.

2. At the diagnostic bench, a supervisor approves replacement only after a failed test. The test has passed. What follows?

A. Replacement is not authorized by that rule
B. The part is missing
C. Replacement is mandatory
D. The test must be ignored

3. At the diagnostic bench, what is the primary purpose of a fuse in an automotive circuit?

A. Open the circuit when current becomes excessive
B. Raise normal voltage
C. Store fuel pressure

D. Reverse motor rotation

4. At the diagnostic bench, a 20-tooth gear drives a 40-tooth gear. What fraction of the driver’s speed is the driven gear’s speed?

A. 2
B. 4
C. 0.25
D. 0.5

5. At the diagnostic bench, a test lasts 480 seconds. How many minutes is that?

A. 7.5
B. 12
C. 8
D. 6

6. At the cooling-system bay, if both the switch and relay test good, inspect the load circuit. The switch and relay test good. What is next?

A. Replace the relay immediately
B. Inspect the load circuit
C. Stop without recording results
D. Replace the switch immediately

7. At the diagnostic bench, for tire service, inspect, measure, adjust, torque, and document. Which sequence follows those requirements?

A. inspect -> measure -> torque -> adjust -> document
B. inspect -> measure -> adjust -> torque -> document
C. measure -> inspect -> adjust -> torque -> document

D. inspect -> adjust -> measure -> torque -> document

8. At the diagnostic bench, a point begins at (0, 0), moves five units north, and then two units west. Where does it finish?

A. (-2, -5)
B. (5, -2)
C. (-2, 5)
D. (2, 5)

9. At the starting-system bay, no tool may be left in a closed compartment. A tool is still in the compartment. What conclusion follows?

A. The compartment is ready to close
B. The tool is irrelevant
C. The work order is automatically complete
D. The compartment must remain open until the tool is removed

10. At the cooling-system bay, one third of 18 bolts is replaced during a repair. How many bolts are replaced?

A. 6
B. 9
C. 12
D. 3

11. At the cooling-system bay, a pulley system has two rope segments supporting the load. What ideal mechanical advantage does it provide?

A. 2
B. 4

C. 1
D. 3

12. At the cooling-system bay, a point begins at (1, 4) and moves three units south. What is its new position?

A. (-2, 4)
B. (4, 1)
C. (1, 1)
D. (1, 7)

13. At the cooling-system bay, for a coolant inspection, cool the engine, relieve pressure, inspect, refill, and bleed. Which sequence is valid?

A. cool -> relieve -> refill -> inspect -> bleed
B. cool -> relieve -> inspect -> refill -> bleed
C. relieve -> cool -> inspect -> refill -> bleed
D. cool -> inspect -> relieve -> refill -> bleed

14. At the diagnostic bench, the supervisor compared two repair proposals. One was faster but left the damaged wire in place. The other required more preparation but restored the protected routing. The supervisor selected the second proposal. What factor most influenced the supervisor’s choice?

A. Leaving the damaged wire untouched
B. Choosing the fastest option regardless of risk
C. Avoiding all preparation
D. Restoring the protected routing

15. At the charging-system bay, if the pressure reading is low, inspect the filter. The pressure reading is low. What conclusion follows?

A. Replace the battery
B. Ignore the reading
C. Increase tire pressure
D. Inspect the filter

16. Why is a relay useful when a control switch must operate a high-current load in the cooling-system bay?

A. It eliminates the need for a fuse
B. It converts AC into coolant
C. A small control current can switch a larger load current
D. It measures tire pressure

17. At the starting-system bay, four filters cost 28 dollars at the same unit price. What is the cost of one filter?

A. 6
B. 7
C. 8
D. 12

18. At the west maintenance lane, if the warning lamp is on, test the related relay. The warning lamp is on. What should happen next?

A. Test the related relay
B. Remove the fuse permanently
C. Replace the engine oil
D. Release the vehicle without testing

19. At the diagnostic bench, a sequence is 3, 6, 12, 24, __. Which number best continues the pattern?

A. 30
B. 36
C. 48
D. 42

20. At the starting-system bay, a 100-pound load acts over 5 square inches. What pressure does it create?

A. 50
B. 5
C. 25
D. 20

21. At the diagnostic bench, which tool is designed to remove insulation without cutting the conductor strands?

A. A pipe cutter
B. A wire stripper
C. A pry bar
D. A cold chisel

22. What is the alternator's principal role while the engine is running in the diagnostic bench?

A. Supply electrical power and replenish battery charge
B. Meter brake fluid
C. Change transmission gear ratios
D. Crank the engine before combustion

23. At the charging-system bay, a 30-pound force moves an object 2 feet in the direction of motion. How much work is done?

A. 32

B. 90
C. 60
D. 15

24. What is the principal purpose of eye protection during grinding or wire brushing in the cooling-system bay?

A. To prevent all hand fatigue
B. To shield the eyes from flying particles
C. To measure the wheel diameter
D. To increase the motor speed

25. At the starting-system bay, what symptom is most consistent with an open circuit in a powered branch?

A. The fuse becomes larger
B. The battery polarity changes
C. Resistance becomes exactly zero
D. No current flows through the break

26. At the charging-system bay, what is a likely effect of a high-resistance corroded connection?

A. A voltage drop and possible heat at the connection
B. A stronger ground path for this scenario
C. Perfect voltage transfer for this scenario
D. Automatic fuse replacement for this scenario

27. At the cooling-system bay, which component turns electrical energy into the cranking motion needed to start an engine?

A. The steering knuckle

B. The starter motor
C. The muffler
D. The thermostat

28. At the starting-system bay, what property does a higher-octane gasoline primarily provide?

A. Greater resistance to knock under compression
B. A stronger brake spring
C. A larger battery case
D. A lower coolant level

29. At the starting-system bay, for a voltage test, inspect, connect the meter, energize, measure, de-energize, and record. Which sequence is valid?

A. inspect -> connect -> measure -> energize -> deenergize -> record
B. connect -> inspect -> energize -> measure -> deenergize -> record
C. inspect -> energize -> connect -> measure -> deenergize -> record
D. inspect -> connect -> energize -> measure -> deenergize -> record

30. At the cooling-system bay, a sequence is 81, 27, 9, 3, __. Which number best continues the pattern?

A. 6
B. 0
C. 1
D. 2

31. At the cooling-system bay, a maintenance note lists inspection, cleaning, measurement, adjustment, and retest. It does not list replacement as the first response. The note was written for technicians who must separate a simple adjustment from a failed component. Which title best captures the note?

A. A Structured Approach to Diagnosing a Suspected Fault

B. Skipping Measurements During Service
C. Using One Test for Every Problem
D. Replacing Every Suspect Component

32. In the starting-system bay, which tool is designed to measure the outside diameter of a small shaft accurately?

A. A test light
B. A pipe wrench
C. A feeler gauge
D. An outside micrometer

33. At the starting-system bay, a clean filter improves airflow, but replacing it does not correct a damaged intake duct. The technician therefore inspected both items before deciding which repair was necessary. What relationship does the passage establish?

A. A damaged duct cannot affect airflow
B. A filter and an intake duct can create different airflow problems
C. Inspection is unnecessary after cleaning
D. All airflow problems require a new filter

34. At the charging-system bay, for replacing a belt, identify the belt, isolate the drive, remove the old belt, compare the replacement, install it, and tension it. Which sequence is valid?

A. isolate -> identify -> remove -> compare -> install -> tension
B. identify -> remove -> isolate -> compare -> install -> tension
C. identify -> isolate -> remove -> compare -> install -> tension
D. identify -> isolate -> compare -> remove -> install -> tension

35. At the cooling-system bay, which sentence uses a semicolon correctly?

A. The fuse was intact; the technician continued the circuit test.
B. The fuse; was intact the technician continued the circuit test.
C. The fuse was intact; and the technician continued the circuit test.
D. The fuse was intact, the technician continued the circuit test.

36. At the east maintenance lane, a work order requires a continuity test before a connector is replaced. The continuity test has not been completed. What is justified?

A. Skip all documentation
B. Replace the connector immediately
C. Complete the continuity test first
D. Declare the circuit repaired

37. At the starting-system bay, which sentence uses active voice most directly?

A. The terminal had its tightening performed by the technician.
B. The technician tightened the terminal.
C. The terminal was tightened by the technician.
D. The tightening of the terminal was completed.

38. At the west maintenance lane, which meter connection is correct for measuring voltage across a component?

A. Remove the circuit fuse first
B. Place the meter in series with the battery only
C. Connect both leads to the same probe tip
D. Place the meter leads in parallel with the component

39. At the charging-system bay, a hex fastener is tight and its corners are beginning to wear. Which choice best reduces further rounding?

A. An adjustable wrench
B. A six-point socket
C. A long screwdriver
D. A twelve-point socket

40. At the starting-system bay, a sequence is 5, 10, 17, 26, __. Which number best continues it?

A. 37
B. 36
C. 39
D. 34

41. At the starting-system bay, a point begins at (-2, 0) and moves six units east. What is its new position?

A. (0, 6)
B. (4, 6)
C. (4, 0)
D. (-8, 0)

42. At the west maintenance lane, for a suspected loose ground, reproduce the symptom, inspect the ground, measure voltage drop, repair, and retest. Which sequence is valid?

A. inspect -> reproduce -> drop -> repair -> retest
B. reproduce -> drop -> inspect -> repair -> retest
C. reproduce -> inspect -> repair -> drop -> retest
D. reproduce -> inspect -> drop -> repair -> retest

43. At the east maintenance lane, what is the principal electrical behavior of a diode in its normal use?

A. It increases wire size

B. It permits current mainly in one direction
C. It stores engine oil
D. It equalizes all voltages

44. At the charging-system bay, a person faces north, turns right, and walks five units. What displacement is represented?

A. (0, 5)
B. (0, -5)
C. (5, 0)
D. (-5, 0)

45. At the charging-system bay, why can a low coolant level contribute to engine overheating?

A. Less coolant is available to carry heat away
B. The battery gains too much charge
C. The tires become overinflated
D. The differential locks automatically

46. At the west maintenance lane, a 40-pound force is applied at a lever arm 1.5 feet long. What torque results?

A. 41.5
B. 80
C. 26.7
D. 60

47. At the lift inspection area, an electrical load draws 5 amperes from a 12-volt supply. How much power does it use?

A. 60 W

B. 120 W
C. 2.4 W
D. 17 W

48. At the charging-system bay, which sentence uses the pronoun case correctly?

A. The supervisor gave the work order to the technician and I.
B. The supervisor gave the work order to me and he.
C. The supervisor gave the work order to the technician and myself.
D. The supervisor gave the work order to the technician and me.

49. At the west maintenance lane, a person faces west, turns left, and walks four units. What displacement is represented?

A. (0, 4)
B. (-4, 0)
C. (0, -4)
D. (4, 0)

50. At the west maintenance lane, which part transfers steering linkage movement to the front wheel knuckle?

A. A piston ring
B. A tie rod
C. A radiator hose
D. A flywheel tooth

51. At the east maintenance lane, for a filter service, verify the correct part, isolate the system, remove the filter, inspect the seal, install the new filter, and check for leaks. Which sequence is valid?

A. isolate -> verify -> remove -> seal -> install -> leak

B. verify -> remove -> isolate -> seal -> install -> leak
C. verify -> isolate -> seal -> remove -> install -> leak
D. verify -> isolate -> remove -> seal -> install -> leak

52. At the charging-system bay, a sequence is 2, 5, 10, 17, __. Which number best continues it?

A. 26
B. 25
C. 28
D. 24

53. At the west maintenance lane, a sequence is 2, 3, 5, 8, 13, __. Which number best continues it?

A. 20
B. 24
C. 21
D. 18

54. At the east maintenance lane, point A is at (2, 1). Point B is four units east and three units north of A. Where is B?

A. (6, -2)
B. (6, 4)
C. (4, 6)
D. (-2, 4)

55. At the lift inspection area, a marker at (4, 0) moves two units west and one unit north. What is its new position?

A. (2, 1)
B. (2, -1)

C. (1, 2)
D. (6, 1)

56. At the east maintenance lane, what is the primary job of a shock absorber in the suspension?

A. Support all vehicle weight alone
B. Dampen spring oscillation
C. Increase engine compression
D. Pump fuel into the cylinder

57. At the parts staging area, starting at (0, 0), a cart moves five east, five north, and two west. Where does it finish?

A. (7, 5)
B. (3, -5)
C. (5, 3)
D. (3, 5)

58. At the quality-check station, a marker at (0, 0) faces east, turns 180 degrees, and moves six units. What is its position?

A. (6, 0)
B. (0, -6)
C. (-6, 0)
D. (0, 6)

59. Which tool gives a technician more leverage for initially loosening a stubborn fastener in the west maintenance lane?

A. A short ratchet handle
B. A breaker bar

C. A plastic trim tool
D. A small pick

60. At the lift inspection area, every scheduled unit receives a pre-service inspection. Unit 18 is scheduled. What follows?

A. Unit 18 is already repaired
B. No inspection is required
C. Only the battery is inspected
D. Unit 18 receives a pre-service inspection

61. At the final-test lane, a point begins at (3, 2), moves two west, then three north. What is the final position?

A. (1, 5)
B. (1, -1)
C. (3, 5)
D. (5, 5)

62. At the charging-system bay, the work order says to verify the complaint, inspect the related circuit, test the suspected component, and record the result. The technician follows those steps even though the first symptom seems obvious. What is the author’s purpose?

A. To describe a vehicle’s paint color
B. To argue that testing is unnecessary
C. To explain why a repeatable diagnostic sequence matters
D. To advertise a replacement part

63. At the west maintenance lane, which sentence uses a plural possessive correctly?

A. The technicians’ tools were stored in the cabinet.

B. The technician’s tools were stored in the cabinet.
C. The technicians tools were stored in the cabinet.
D. The technicians’ tool was stored in the cabinet.

64. At the lift inspection area, for a brake complaint, verify the symptom, inspect fluid level, inspect the pads, measure rotor condition, repair, and road-test. Which sequence is valid?

A. fluid -> verify -> pads -> rotor -> repair -> roadtest
B. verify -> pads -> fluid -> rotor -> repair -> roadtest
C. verify -> fluid -> pads -> rotor -> repair -> roadtest
D. verify -> fluid -> repair -> pads -> rotor -> roadtest

65. At the parts staging area, for a connector repair, identify the circuit, isolate power, inspect the terminals, repair the connection, protect it, and test. Which sequence is valid?

A. isolate -> identify -> inspect -> repair -> protect -> test
B. identify -> isolate -> inspect -> repair -> protect -> test
C. identify -> inspect -> isolate -> repair -> protect -> test
D. identify -> isolate -> repair -> inspect -> protect -> test

66. At the lift inspection area, what does engine torque describe most directly?

A. Fuel volume in the tank
B. Coolant color
C. Tire tread depth
D. Twisting force available at the shaft

67. At the west maintenance lane, two vehicles produced similar starting complaints. One had a weak battery connection; the other had a worn starter contact. The supervisor cautioned that similar symptoms do not prove identical causes. What conclusion is best supported?

A. The same symptom can result from different faults
B. A battery connection can never matter
C. Testing should be skipped when symptoms match
D. Every starting complaint has one cause

68. At the parts staging area, what is the main purpose of the engine air filter?

A. Cool the differential oil
B. Increase wheel alignment angle
C. Remove damaging particles from incoming air
D. Raise hydraulic brake pressure

69. At the parts staging area, if a fuse is open, the protected branch cannot carry its intended current. The fuse is open. What follows?

A. The branch is carrying maximum current
B. The fuse has increased circuit voltage
C. The battery has changed polarity
D. The protected branch cannot carry its intended current

70. At the east maintenance lane, which change generally increases friction between two dry contacting surfaces?

A. Separate the surfaces
B. Increase surface roughness
C. Add a lubricant film
D. Reduce the normal load

71. At the east maintenance lane, which sentence is written correctly?

A. The mechanic check the belts before starting the engine.

B. The mechanic checks the belts before starting the engine.
C. The mechanic checking the belts before starting the engine.
D. The mechanic checks the belts before start the engine.

72. At the quality-check station, a technician must isolate power before opening an enclosure. The enclosure is still powered. What is the correct conclusion?

A. Power must be isolated before opening it
B. The enclosure is safe to open
C. The cover should be removed faster
D. The fuse should be bridged

73. What is the purpose of a sound ground connection in the parts staging area?

A. Increase resistance deliberately
B. Replace the positive supply
C. Provide a low-resistance return path to the source
D. Prevent all switching

74. At the quality-check station, which sequence correctly describes the four strokes of a conventional four-stroke engine?

A. Exhaust, power, compression, intake
B. Compression, intake, exhaust, power
C. Power, exhaust, intake, compression
D. Intake, compression, power, exhaust

75. At the charging-system bay, a reading rises from 80 to 92. What is the percent increase?

A. 10
B. 12

C. 20
D. 15

76. At the east maintenance lane, a sequence is 10, 20, 40, 80, __. Which number best continues it?

A. 100
B. 120
C. 160
D. 140

77. At the final-test lane, in a compression-ignition engine used for fleet service, what causes the fuel to ignite?

A. Heat produced by compressing the intake air
B. The radiator fan
C. A spark plug arc
D. A glowing exhaust pipe

78. At the east maintenance lane, which instrument is appropriate for checking a narrow valve or contact clearance?

A. A wire brush
B. A feeler gauge
C. A ball-peen hammer
D. A tape measure

79. At the lift inspection area, what is the safest support after a vehicle has been raised with a service jack?

A. Support it with loose blocks
B. Rest the vehicle on a movable cart

C. Leave the jack as the only support
D. Place approved jack stands under specified support points

80. At the quality-check station, which component converts engine rotation into electrical output for the charging system?

A. The brake caliper
B. The thermostat
C. The alternator
D. The fuse

81. At the lift inspection area, what form of energy is stored when a spring is compressed?

A. Elastic potential energy
B. Electrical current
C. Exhaust pressure only
D. Chemical fuel energy

82. At the quality-check station, for a tool return, stop the machine, clean the tool, inspect for damage, return it to storage, and report defects. Which sequence is valid?

A. clean -> stop -> inspect -> store -> report
B. stop -> inspect -> clean -> store -> report
C. stop -> clean -> inspect -> store -> report
D. stop -> clean -> store -> inspect -> report

83. At the west maintenance lane, a rectangular work area is 8 feet long and 12 feet wide. What is its area?

A. 20
B. 96

C. 40
D. 80

84. At the parts staging area, which tool is intended to remove a pulley or bearing that is held by a press fit?

A. A puller
B. A center punch
C. A torque-angle gauge
D. A wire stripper

85. At the lift inspection area, a sequence alternates adding four and multiplying by two: 3, 7, 14, 18, 36, __. What comes next?

A. 72
B. 40
C. 38
D. 42

86. At the east maintenance lane, before returning a vehicle, the crew checked the work order, confirmed the test result, removed tools from the compartment, and notified the supervisor. The final notification was the last listed action. Which action was performed first?

A. Confirming the test result
B. Notifying the supervisor
C. Removing tools
D. Checking the work order

87. At the training shop, what is the thermostat primarily responsible for in an engine cooling system?

A. Increasing tire pressure

B. Regulating coolant flow as the engine warms
C. Controlling brake friction
D. Filtering engine oil

88. At the parts staging area, a sequence is 1, 4, 9, 16, __. Which number best continues it?

A. 20
B. 24
C. 25
D. 32

89. At the final-test lane, if a symptom changes when a harness is moved, inspect the harness routing. The symptom changes when the harness is moved. What follows?

A. Increase coolant concentration
B. Replace every relay
C. Ignore the harness
D. Inspect the harness routing

90. At the parts staging area, what is the main tradeoff when a ramp reduces the force needed to raise a load?

A. The load travels a greater distance
B. The load becomes weightless
C. The ramp removes all friction
D. The work becomes zero

91. At the lift inspection area, a supervisor says the new reading is useful only when compared with the baseline recorded before the repair. Without that comparison, a number may look acceptable but still fail to show improvement. Why is the baseline important?

A. It proves every component is new
B. It prevents the vehicle from starting
C. It replaces every later test
D. It provides a reference for judging change

92. At the lift inspection area, which sentence avoids a comma splice?

A. The test failed, so the technician inspected the connector.
B. The test failed the technician inspected, the connector.
C. The test failed, the technician inspected the connector.
D. The test failed; so the technician inspected the connector.

93. At the final-test lane, what is the most appropriate first response when a fuse opens again immediately after replacement?

A. Increase battery voltage for this scenario in the stated situation
B. Install a larger fuse for this scenario
C. Find the cause of the excessive current before fitting another fuse
D. Bypass the fuse with wire for this scenario

94. At the east maintenance lane, a parts bin contains 45 fasteners and receives 38 more. How many fasteners are in the bin?

A. 93
B. 83
C. 73
D. 85

95. At the training shop, a vehicle moves three units south from (5, 5), then three units east. What is the final position?

A. (5, 2)
B. (2, 8)
C. (8, 8)
D. (8, 2)

96. At the parts staging area, the checklist separates observations from conclusions. It records a loose terminal as an observation and a possible voltage-drop source as a conclusion to be tested. Which statement is an observation?

A. The battery must be replaced
B. The terminal is loose
C. The relay cannot operate
D. The cable is definitely defective

97. At the parts staging area, which sentence uses parallel structure?

A. The crew inspected the belt, measuring the tension, and the result was recorded.
B. The crew inspected, the belt measured, and recorded the result.
C. The crew inspected the belt, measured the tension, and recorded the result.
D. The crew was inspecting the belt, measured tension, and recording the result.

98. At the lift inspection area, what is 15 percent of 240?

A. 36
B. 42
C. 24
D. 30

99. At the final-test lane, a procedure requires isolation before removal, removal before inspection, and inspection before testing. Which sequence is valid?

A. isolate -> inspect -> remove -> test
B. isolate -> remove -> inspect -> test
C. test -> isolate -> remove -> inspect
D. remove -> isolate -> inspect -> test

100. At the training shop, what does a starter solenoid commonly do during an engine start request?

A. Regulate coolant flow for this scenario
B. Measure wheel alignment for this scenario
C. Filter fuel for this scenario
D. Switch high current and engage the starter drive

101. At the component teardown bench, a 12-volt circuit has 4 ohms of resistance. What current should the circuit draw?

A. 3 A
B. 48 A
C. 0.33 A
D. 8 A

102. At the quality-check station, before attaching a replacement cable terminal, which tool makes a reliable mechanical crimp?

A. A rubber mallet
B. A cold chisel
C. A terminal crimping tool
D. A feeler gauge

103. At the parts staging area, a technician uses three fourths of a 64-unit supply. How many units are used?

A. 32
B. 52
C. 16
D. 48

104. At the quality-check station, the report recommends cleaning and retesting before replacement because the connection is accessible and the symptom is inconsistent. That recommendation is limited to this evidence and does not promise that cleaning will solve every fault. What limitation does the passage emphasize?

A. Replacement is never appropriate
B. Testing is unrelated to the recommendation
C. The recommendation depends on the available evidence
D. Cleaning always solves the problem

105. At the quality-check station, when two external gears mesh, how does the driven gear rotate relative to the driver?

A. In the opposite direction
B. In the same direction
C. Without any rotation
D. Only vertically

106. At the quality-check station, which sentence has the clearest pronoun reference?

A. After the supervisor reviewed the log, they signed it and it was filed.
B. After the supervisor reviewed the log, the supervisor signed it.
C. After the supervisor reviewed it, the log was signed.
D. After it reviewed the log, the supervisor signed the form.

107. At the quality-check station, a sequence is 7, 14, 13, 26, 25, __. Which number best continues it?

A. 52
B. 38
C. 48
D. 50

108. At the component teardown bench, why does the lubrication system circulate engine oil through moving parts?

A. To reduce friction and carry heat and contaminants away
B. To increase fuel octane
C. To create tire traction
D. To replace the cooling fan

109. What should be done first when cleaning corrosion from a battery terminal in the final-test lane?

A. Apply grease over the corrosion
B. Follow the isolation procedure before brushing the connection
C. Increase the charging voltage
D. Short the terminals briefly

110. At the final-test lane, which sentence uses the possessive form correctly?

A. The technician checked the vehicles’ battery.
B. The technician checked the vehicle battery’s.
C. The technician checked the vehicle’s battery.
D. The technician checked the vehicles battery.

111. At the quality-check station, a mixture uses two parts cleaner for every five parts water. If the total is 42 parts, how many parts are cleaner?

A. 18

B. 10
C. 12
D. 14

112. At the training shop, a work order requires reading, gathering, securing, performing, and documenting in that order. Which sequence is valid?

A. read -> gather -> secure -> perform -> document
B. read -> secure -> gather -> perform -> document
C. read -> gather -> perform -> secure -> document
D. gather -> read -> secure -> perform -> document

113. At the component teardown bench, for a no-start diagnosis, verify the symptom, test the battery, isolate the fault, repair, and retest. Which sequence follows the plan?

A. verify -> battery -> repair -> isolate -> retest
B. battery -> verify -> isolate -> repair -> retest
C. verify -> isolate -> battery -> repair -> retest
D. verify -> battery -> isolate -> repair -> retest

114. At the final-test lane, the crew recorded a loose belt before beginning the scheduled inspection. The supervisor assigned one worker to obtain the replacement and another to secure the vehicle. Only after both tasks were complete did the crew begin the inspection. What is the main idea of the passage?

A. The belt was measured while moving
B. The crew organized prerequisites before starting work
C. The supervisor avoided assigning tasks
D. The inspection was canceled

115. At the training shop, which device is best for confirming that voltage is present at a point, without measuring its exact value?

A. A test light
B. A thread pitch gauge
C. A depth micrometer
D. A torque wrench

116. At the component teardown bench, why are soft jaws commonly fitted to a bench vise when holding a finished part?

A. They replace all required measurements
B. They increase electrical current
C. They sharpen the part automatically
D. They reduce marring and distribute clamping contact

117. At the training shop, which sentence is most concise without losing meaning?

A. The crew did an inspection that was of the connector before they did testing.
B. The crew inspected the connector before testing the circuit.
C. The connector was inspected by the crew in advance of the circuit being tested by them.
D. The crew conducted an inspection of the connector prior to the testing of the circuit.

118. At the service-record desk, for a corroded terminal, disconnect the ground, clean the contact, inspect it, reconnect, and test. Which sequence is valid?

A. clean -> disconnect -> inspect -> reconnect -> test
B. disconnect -> inspect -> clean -> reconnect -> test
C. disconnect -> clean -> inspect -> reconnect -> test
D. disconnect -> clean -> reconnect -> inspect -> test

119. At the training shop, all completed repairs require a documented retest. This repair is complete. What is required?

A. Change the vehicle identification
B. Remove the work order
C. Skip verification
D. Document a retest

120. At the service-record desk, why does a differential allow the two driven wheels to rotate at different speeds in a turn?

A. The tires stop gripping
B. The inside wheel has higher voltage
C. The outside wheel travels a longer path
D. The axle becomes disconnected

121. At the final-test lane, why can hydraulic pressure transmit force through a fluid?

A. Pressure is transmitted through the confined fluid
B. The fluid removes all load
C. The hose creates fuel
D. The fluid becomes a solid gear

122. At the final-test lane, what is the average of 12, 16, and 20?

A. 14
B. 16
C. 15
D. 18

123. At the service-record desk, which tool is most suitable for checking both inside and outside dimensions of a component?

A. A vernier caliper

B. A fixed open-end wrench
C. A pry bar
D. A soldering iron

124. At the final-test lane, a sequence is 12, 15, 21, 30, __. Which number best continues it?

A. 36
B. 39
C. 42
D. 45

125. At the secured repair area, what does the master cylinder do when a driver presses a hydraulic brake pedal?

A. Converts fuel into electricity
B. Converts pedal force into hydraulic pressure
C. Opens the radiator thermostat
D. Changes tire diameter

126. At the component teardown bench, if the battery connection is loose, voltage drop may appear under load. Voltage drop appears under load. What can be concluded?

A. The battery is definitely new
B. The alternator is definitely failed
C. No further testing is useful
D. A loose battery connection is possible, not proven

127. At the training shop, a vehicle travels at 55 miles per hour for 5.5 hours. What distance does it cover?

A. 330

B. 302.5
C. 275
D. 300

128. At the component teardown bench, a marker at (-1, 2) moves four units west and four units south. What is its new position?

A. (-5, 6)
B. (5, 2)
C. (-5, -2)
D. (3, -2)

129. At the service-record desk, a procedure says to cool the engine before opening a pressurized coolant system. The engine is hot. What follows?

A. Wait for the engine to cool
B. Open the cap immediately
C. Add cold fluid under pressure
D. Remove the thermostat while hot

130. At the component teardown bench, how many inches are in 3.2 feet?

A. 32
B. 42.4
C. 9.6
D. 38.4

131. At the training shop, a technician cleaned a connector, tightened its retaining clip, and then repeated the continuity test. The second test passed, so the technician documented the repair and returned the vehicle to the supervisor. Which action occurred immediately before the repair was documented?

A. The continuity test passed
B. The vehicle was released to service
C. The connector was first discovered
D. The retaining clip was removed

132. At the training shop, a sequence is 2, 6, 18, 54, __. Which number best continues it?

A. 108
B. 144
C. 216
D. 162

133. At the secured repair area, when using a hand file on a metal edge, which practice gives the most controlled cut?

A. Use the file without a handle
B. Apply pressure on the forward stroke and lift on return
C. Press hard on both strokes
D. Twist the file while dragging it back

134. At the component teardown bench, a sequence is 50, 45, 40, 35, __. Which number best continues it?

A. 28
B. 32
C. 30
D. 25

135. At the component teardown bench, which sentence has correct subject-verb agreement?

A. The reading from the meters indicate a loose connection.

B. The readings from the meter indicate a loose connection.
C. The readings from the meter indicating a loose connection.
D. The readings from the meter indicates a loose connection.

136. At the service-record desk, how many quarts are in 2.5 gallons?

A. 5
B. 8
C. 10
D. 12.5

137. At the secured repair area, if a reading is outside the specified range, investigate the cause. The reading is within the range. What is justified?

A. The vehicle must be released
B. The component is proven perfect
C. The measurement was never taken
D. The stated rule alone does not require that investigation

138. At the service-record desk, a sequence is 6, 11, 21, 41, __. Which number best continues it?

A. 81
B. 61
C. 71
D. 91

139. At the training shop, what is the principal mechanical purpose of a bearing?

A. Reduce friction between moving members
B. Store coolant
C. Block all rotation

D. Increase shaft bending

140. At the component teardown bench, the log shows that a warning appeared only after the vehicle warmed up and disappeared after the harness was moved. No warning appeared during a cold start. The supervisor asked for a harness inspection before any module was replaced. What can be inferred from the supervisor’s request?

A. The warning is unrelated to the harness
B. The module is proven defective
C. The vehicle has no electrical power
D. The fault may be temperature- or movement-sensitive

141. At the service-record desk, three resistors of 2 ohms, 3 ohms, and 5 ohms are connected in series. What is total resistance?

A. 30 ohms
B. 0.5 ohm
C. 10 ohms
D. 3 ohms

142. At the service-record desk, a point begins at (2, 3) and moves four units east. What is its new position?

A. (6, -1)
B. (6, 3)
C. (2, 7)
D. (-2, 3)

143. At the service-record desk, the report calls the noise intermittent. In this context, intermittent means the noise is present during some operating periods but absent during others. What does intermittent mean in the passage?

A. Continuing without interruption
B. Occurring at irregular intervals
C. Caused only by low fuel
D. Already repaired permanently

144. At the service-record desk, which sentence maintains consistent verb tense?

A. The technician inspecting the cable and recorded the result.
B. The technician inspected the cable and records the result.
C. The technician inspected the cable and recorded the result.
D. The technician inspects the cable and recorded the result.

145. At the secured repair area, a sequence is 4, 8, 12, 16, __. Which number best continues the pattern?

A. 20
B. 22
C. 24
D. 18

146. At the component teardown bench, which change generally improves stability for a supported vehicle or machine?

A. Move the load outside the base
B. Raise the center of gravity
C. Narrow the support base
D. Lower the center of gravity

147. At the service-record desk, a lever provides a 4:1 ideal mechanical advantage and moves a 50-pound load. How much effort is required?

A. 20

B. 12.5
C. 200
D. 10

148. At the secured repair area, because the replacement hose was the wrong length, the crew did not install it. They labeled the part, returned it to stores, and requested the correct specification before rescheduling the task. Why did the crew postpone installation?

A. The vehicle had no wheels
B. The crew lost the work order
C. The replacement hose did not fit the specification
D. The hose was installed successfully

149. At the secured repair area, two equal 6-ohm resistors are connected in parallel. What equivalent resistance results?

A. 36 ohms
B. 6 ohms
C. 12 ohms
D. 3 ohms

150. At the secured repair area, which sentence uses capitalization correctly?

A. The crew inspected the bus at the central maintenance shop.
B. The crew inspected the Bus at the Central Maintenance Shop.
C. The Crew inspected the bus at the central Maintenance shop.
D. The crew inspected the bus at the Central maintenance shop.

Practice Exam 18: Answer Key and Explanations

1. B — The introductory phrase is followed by the person who used the meter, so the modifier has a clear subject. The other choices attach the phrase to the voltage or interrupt the sentence awkwardly. Place an opening modifier next to the person or thing performing the action. This is the governing distinction in the scenario.

2. A — Because the prerequisite failed-test condition is absent, the approval rule does not authorize replacement. The other choices reverse or disregard the stated condition. Do not infer the converse of an if-then rule. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

3. A — A fuse melts or opens when excessive current creates enough heat to protect wiring and equipment. A fuse does not boost voltage, store pressure, or determine motor direction. Overcurrent protection is placed in the circuit before damage occurs. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

4. D — The driven gear turns at the tooth-count ratio 20 divided by 40, or one half the driver speed. The other values reverse the ratio or use unrelated factors. Gear speed and tooth count change inversely when gears mesh. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

5. C — There are 60 seconds in a minute, so 480 divided by 60 equals 8 minutes. The other values use a wrong divisor or confuse seconds with minutes. For a larger unit, divide by the number of smaller units per larger unit. This is the governing distinction in the scenario. The same principle supports safe, consistent service decisions.

6. B — Both stated prerequisites are satisfied, so the rule directs attention to the load circuit. The other choices replace parts that tested good or abandon the diagnostic process. Combine multiple premises before choosing the next logical action. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

7. B — The correct sequence obtains information before adjustment and confirms the final fastener condition before documentation. The other sequences adjust without measuring or document a torque step that has not occurred. Measurements should guide adjustments, and verification should precede the record. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

8. C — North increases the vertical coordinate to 5, and west decreases the horizontal coordinate to -2. The other positions reverse a direction or exchange the coordinate changes. Apply each movement in order on a consistent coordinate system. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

9. D — The stated prohibition means closing cannot occur while the tool remains inside. The other choices conflict with the rule or add unsupported completion claims. A negative rule identifies an action

that must not occur under the given condition. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

10. A — Dividing 18 by three gives six bolts. The alternatives represent one sixth, one half, or two thirds of the original quantity. Fractions describe a portion of the stated total. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

11. A — In an ideal system, the number of supporting rope segments equals the mechanical advantage, giving 2. The other values count the wrong number of supporting segments. Count supporting segments, not every visible segment of rope. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

12. C — South decreases the vertical coordinate by three, leaving the horizontal coordinate at 1. The alternatives move east, north, or west instead. Compass direction determines which coordinate changes. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

13. B — The correct sequence places cooling and pressure control before inspection and refill. The other choices open the system too soon or refill before inspection. Hazard control is an ordering constraint, not an optional preference. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

14. D — The supervisor chose the proposal that corrected the routing and addressed the underlying condition. The other choices describe the rejected approach or an action the passage says was not selected. The best answer explains the decision rather than repeating a minor detail. This is the governing distinction in the scenario.

15. D — The conditional rule applies because its stated condition is present, so filter inspection follows. The other choices do not follow from the rule or the given fact. Apply an if-then rule only after confirming its condition. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

16. C — The relay uses an energized coil to move contacts that control the larger circuit. A relay does not replace protection or perform fluid and tire measurements. Separate control and load circuits reduce switch and wiring demands. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

17. B — The unit price is the total cost divided by four, or 7 dollars. The other choices do not divide the total evenly into four equal prices. Unit rate turns a total into a per-item comparison. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

18. A — The premise activates the stated instruction, making a relay test the supported next step. The other choices are unrelated or defeat the purpose of diagnosis. Deductive reasoning moves from a rule

and fact to a specific conclusion. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

19. C — Each term doubles the preceding term, so 24 multiplied by two gives 48. The other choices add or multiply by inconsistent amounts. Check the relationship between adjacent terms before extending a sequence. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

20. D — Pressure equals force divided by area, so 100 divided by 5 equals 20 pounds per square inch. The other values divide incorrectly or multiply force and area. Pressure is concentrated force per unit area. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

21. B — A wire stripper uses a controlled cutting profile matched to the conductor size. The other tools are not shaped to remove insulation and could damage the conductor or insulation. Prepare conductors without creating a hidden weak point. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

22. A — The alternator converts engine rotation into electrical output for loads and charging. Cranking is the starter's job, while brake fluid and gear ratios belong to other systems. Charging faults should be separated from starting and mechanical faults. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

23. C — Work equals force times distance, so 30 multiplied by 2 equals 60 foot-pounds. The other values divide, add, or multiply with an incorrect factor. Work measures force applied through a distance. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

24. B — Grinding and brushing can eject fragments or abrasive material at eye level. Eye protection does not change equipment speed, eliminate fatigue, or perform a measurement. Personal protective equipment addresses the specific hazard created by the task. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

25. D — An open is a discontinuity, so the intended path is interrupted and current cannot complete the circuit. Zero resistance suggests a short, while fuse size and polarity do not change from an open. Trace continuity before replacing a component. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

26. A — Corrosion restricts current flow, causing part of the source voltage to be lost and generating heat. A corroded joint cannot improve transfer or replace protection, and it weakens rather than strengthens the path. Voltage-drop testing reveals resistance under load. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

27. B — The starter motor uses battery current to rotate the engine until combustion can sustain operation. The other choices control temperature, wheel movement, or exhaust noise. Starting requires a

high-current motor and a sound mechanical connection. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

28. A — Octane rating describes resistance to unwanted autoignition in a spark-ignition engine. Fuel rating does not determine coolant level, spring strength, or battery size. Use the fuel property that matches the combustion problem being considered. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

29. D — The sequence checks setup before applying power and measures only after the meter is connected. The other sequences energize too early or measure before the circuit is ready. Instrument setup and hazard control come before an energized measurement. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

30. C — Each term is one third of the preceding term, so one third of 3 is 1. The other choices do not continue the repeated division pattern. A consistent ratio can be more important than a visible difference. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

31. A — The title reflects the note’s sequence and its emphasis on distinguishing adjustment from replacement. The other titles promote actions the note specifically avoids or does not support. A strong title covers the passage’s central purpose without adding a new claim. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

32. D — An outside micrometer uses a calibrated spindle and anvil to measure external dimensions. The other tools grip, gauge a gap, or detect voltage rather than measure a shaft diameter. Match the measuring tool to the dimension being checked. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

33. B — The passage distinguishes two possible causes and explains why both require inspection. The other choices turn a limited observation into an unsupported universal rule. Comparison questions reward attention to how the author separates possible causes. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

34. C — The valid order identifies the part and isolates the drive before removal, comparison, installation, and tensioning. The other sequences remove before isolation or compare the part before the old part is removed. A procedure can contain both safety and quality-control order requirements. This is the governing distinction in the scenario.

35. A — A semicolon can join two closely related independent clauses without a coordinating conjunction. The other choices add an unnecessary conjunction, create a comma splice, or break the clause. Use a semicolon only where both sides can stand as sentences. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

36. C — The required prerequisite remains incomplete, so the test must occur before replacement. The other choices reverse the required order or make unsupported claims. A prerequisite rule controls what

can be concluded or done next. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

37. B — The active sentence names the technician as the actor and uses a direct verb. The other choices hide the actor behind passive or nominal wording. Active voice is useful when responsibility for an action should be clear. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

38. D — Voltage is a difference between two points, so the meter must compare the component terminals. The other choices do not place the meter across the points being compared and may create a fault. The measurement setup must match the electrical quantity. This is the governing distinction in the scenario. The same principle supports safe, consistent service decisions.

39. B — A six-point socket contacts the fastener flats and spreads turning force across stronger surfaces. The other choices provide less secure contact or are not intended for this fastener. Full contact is especially important when a fastener is tight or damaged. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

40. A — The differences are 5, 7, and 9; the next difference is 11, producing 37. The other choices use a constant difference or miss the increasing odd increments. Compare the differences when the terms themselves do not share one simple ratio. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

41. C — Adding six to the horizontal coordinate -2 produces 4, while the vertical coordinate remains zero. The other positions subtract, change the vertical coordinate, or change both. Negative coordinates still follow the same movement rules. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

42. D — The sequence establishes the symptom, inspects the path, measures under the proper condition, then repairs and retests. The other sequences test before inspection or repair before the confirming measurement. Diagnosis should preserve evidence before the repair changes the condition. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

43. B — A diode’s junction conducts readily in forward bias and blocks much of the reverse current. The other choices describe no electrical function performed by a diode. Polarity matters whenever a one-way semiconductor is tested. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

44. C — A right turn from north faces east, so five units produces a horizontal displacement of positive five. The other coordinates represent west, north, or south movement. Combine orientation and distance before assigning the coordinate. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

45. A — Reduced coolant volume can limit heat transfer and expose portions of the system to vapor or air. Charging, tire pressure, and differential behavior are not direct results of low coolant volume.

Cooling diagnosis considers both fluid quantity and circulation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

46. D — Torque equals force times perpendicular distance, so 40 multiplied by 1.5 equals 60 foot-pounds. The other values divide or add the inputs instead of multiplying them. Torque depends on both force and moment arm. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

47. A — Power equals voltage multiplied by current, so 12 times 5 equals 60 watts. The distractors divide, add, or double the values without using the power relationship. Identify the requested electrical quantity before selecting a formula. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

48. D — The preposition to requires objective pronouns, so me is correct in the compound object. I is subjective, he does not match the phrase, and myself is unnecessary here. Test a pronoun by removing the other person from the phrase. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

49. C — A left turn from west faces south, giving zero horizontal movement and negative four vertically. The other positions represent north, west, or east movement. A turn changes the direction before the distance is applied. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

50. B — The tie rod carries steering motion between the linkage and the knuckle while allowing suspension movement. The other choices belong to the engine cooling or rotating assembly. Locate the part in the force path from steering input to wheel direction. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

51. D — The valid sequence confirms the part and isolation before removal, then inspects the seal before installation. The other sequences remove before isolation or inspect the seal before the filter is removed. Correct parts and sealing checks belong at the points where they prevent rework. This is the governing distinction in the scenario.

52. A — The differences are 3, 5, and 7, so the next odd difference is 9 and the result is 26. The other choices do not continue the growing odd-number difference pattern. Inductive reasoning favors a rule that explains all earlier transitions. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

53. C — After the first two terms, each number equals the sum of the previous two; 8 plus 13 is 21. The other choices do not follow the repeated addition relationship. Look for a relationship among neighboring terms, not only between one pair. This is the governing distinction in the scenario. The same principle supports safe, consistent service decisions.

54. B — Adding four to the horizontal coordinate and three to the vertical coordinate gives (6, 4). The other choices reverse a direction or exchange the horizontal and vertical changes. Relative-position

questions start from the named point. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

55. A — West changes 4 to 2 and north changes 0 to 1, producing (2, 1). The other positions reverse one movement or exchange the coordinates. Perform each signed movement in the stated order. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

56. B — The shock absorber controls suspension movement by converting motion into heat through fluid resistance. The springs support load, while compression and fuel injection belong to the engine. A suspension component can control motion without carrying the entire load. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

57. D — The horizontal result is 5 minus 2, or 3, and the vertical result is 5. The other positions fail to combine the horizontal moves or reverse a direction. Combine movements on each axis separately. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

58. C — A 180-degree turn from east faces west, producing a horizontal displacement of negative six. The other choices keep the original direction or use a vertical movement. A half-turn reverses the heading before movement. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

59. B — A breaker bar has a longer rigid handle, so the same hand force creates greater turning torque. The other tools have shorter handles, flexible purposes, or cannot safely transmit loosening torque. Use controlled leverage and protect the fastener from sudden, uncontrolled force. This is the governing distinction in the scenario.

60. D — Unit 18 belongs to the scheduled group, so the general rule applies to it. The other choices add facts not contained in the premise or contradict it. Apply a universal statement to a member that clearly meets its condition. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

61. A — The horizontal coordinate changes from 3 to 1 and the vertical coordinate from 2 to 5. The other positions reverse one movement or omit the horizontal change. Coordinate tracking is a sequence of signed updates. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

62. C — The passage focuses on disciplined steps and documentation rather than a product or cosmetic detail. The other choices do not match the subject or contradict the stated process. Purpose is identified by the action the passage is trying to support. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

63. A — Technicians’ shows that more than one technician possesses the tools, and the plural noun tools agrees with the meaning. The other choices use a singular owner, omit the apostrophe, or create a

number mismatch. Possessive punctuation and noun number must agree with the intended owners. This is the governing distinction in the scenario.

64. C — The valid sequence begins with the complaint and gathers the listed inspection information before repair. The other sequences skip the opening verification or repair before completing inspection. A controlled order limits assumptions and preserves useful evidence. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

65. B — The correct sequence identifies the circuit and isolates it before inspection and repair. The other sequences inspect or repair before completing the required prerequisite. Information ordering often combines identification, safety, repair, and verification. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

66. D — Torque is the rotational force that can turn a shaft or overcome resistance. The other choices are measurements of capacity, fluid condition, or tire wear. Torque explains turning effort; speed and power describe different aspects of operation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

67. A — The examples show two different causes producing a similar complaint. The other choices make absolute claims that the passage rejects. Good diagnosis separates symptoms from verified causes. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

68. C — The filter traps dust and debris before air enters the engine, protecting components and airflow quality. Brake pressure, differential temperature, and alignment are controlled elsewhere. A clean intake path protects the engine and supports consistent operation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

69. D — An open fuse interrupts the branch, so normal current cannot pass through that protected path. The other choices contradict the effect of an open protective device. Use the defined effect of the condition rather than guessing at a cause. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

70. B — Greater roughness can increase interlocking between dry surfaces and resist sliding. Lubrication, lower load, and separation generally reduce direct friction contact. Friction depends on contact conditions, load, and surface treatment. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

71. B — The singular subject mechanic takes the singular verb checks, and the opening phrase uses the parallel gerund form starting. The other choices contain subject-verb or verb-form errors. Check agreement first, then check whether related verb forms are parallel. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

72. A — The safety rule applies because the stated hazardous condition remains. The other choices ignore or defeat the isolation requirement. When a safety condition is unmet, the safe prerequisite

remains mandatory. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

73. C — The ground completes the circuit with minimal unwanted resistance so the load receives the intended current. A ground is not a high-resistance device, a replacement for supply voltage, or a ban on switching. Many apparent component faults are return-path faults. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

74. D — The piston first draws in the charge, compresses it, receives the power event, and expels exhaust. The other sequences place one or more strokes out of their operating order. Remember the cycle as draw in, squeeze, deliver power, and clear out. This is the governing distinction in the scenario. The same principle supports safe, consistent service decisions.

75. D — The increase is 12; 12 divided by the original 80 equals 0.15, or 15 percent. The other values use the new value as the base or confuse points with percent. Percent change uses the original value as the denominator. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

76. C — Each term doubles, so the next term after 80 is 160. The alternatives introduce unrelated additions or smaller multipliers. The best inductive rule is the one repeated without exception. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

77. A — Compression raises the air temperature high enough for injected fuel to ignite without a spark. The other choices describe ignition or cooling components that do not initiate normal diesel combustion. The ignition method follows the engine design. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

78. B — A feeler gauge contains thin, known-thickness blades that fit into a small gap for comparison. The other choices cannot provide a controlled thickness reference for a narrow clearance. Clearance work depends on a known blade thickness, not visual estimation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

79. D — Jack stands are designed to carry a stationary load after the lifting operation is complete. A service jack, loose blocks, or a movable cart can shift or release unexpectedly. Raise with the jack, then transfer the load to stable rated supports. This is the governing distinction in the scenario. The same principle supports safe, consistent service decisions.

80. C — The alternator uses mechanical rotation and electromagnetic induction to produce electrical power. The other choices protect a circuit or control mechanical systems rather than generate output. Charging diagnosis begins with the source of electrical generation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

81. A — A compressed spring stores energy in its deformation and can release it as motion. The other choices describe different energy sources or conditions. Deformation can store recoverable mechanical energy. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and

keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

82. C — The valid sequence makes the machine safe, then cleans and inspects before storage and reporting. The other sequences clean while operation has not stopped or store before inspection. End-of-task order protects both people and equipment. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

83. B — Area equals length times width, so 8 multiplied by 12 equals 96 square feet. The alternatives add the dimensions or use only one dimension. Area requires two perpendicular dimensions multiplied together. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

84. A — A puller applies controlled axial force to separate a press-fit component without prying against nearby parts. The other tools mark, measure tightening, or prepare conductors and do not provide removal force. Controlled force protects both the component being removed and the surrounding housing. This is the governing distinction in the scenario.

85. B — The next operation after 36 is adding four, which produces 40. The alternatives apply the wrong operation or continue the multiplier at the wrong point. Alternating patterns require tracking the operation order as well as the values. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

86. D — The passage explicitly lists checking the work order before the other actions. The remaining choices appear later in the stated sequence. When order is asked, follow the passage's chronology rather than task importance. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

87. B — The thermostat opens and closes with temperature to help the engine reach and maintain its intended range. Oil filtration, tire pressure, and brake friction are separate systems and functions. Temperature control depends on managing coolant circulation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

88. C — The terms are consecutive squares: one squared, two squared, three squared, and four squared; five squared is 25. The other choices do not equal the next square. Recognizing a familiar numerical structure makes the next term predictable. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

89. D — The observed movement sensitivity satisfies the rule's condition and supports a harness inspection. The other choices do not follow from the evidence. A specific conditional observation should lead to its matching diagnostic action. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

90. A — A longer path spreads the required force over distance while conserving ideal work. The load still has weight, friction remains, and work is not eliminated. Simple machines trade force for distance

rather than creating energy. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

91. D — A baseline makes it possible to compare the condition before and after the repair. The other choices confuse a reference measurement with replacement, proof, or a disabling action. Measurements become meaningful when their comparison point is clear. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

92. A — A comma plus the coordinating conjunction so correctly links the related independent clauses. The other choices misuse a comma, a semicolon with a conjunction, or punctuation within the clause. Punctuation should show the relationship between complete thoughts. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

93. C — Repeated opening indicates the underlying overload or short remains present. A larger fuse or wire bypass removes protection, and voltage changes do not diagnose the fault. Protective devices should not be defeated during troubleshooting. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

94. B — Adding the original 45 to the 38 received gives 83 fasteners. The other values result from subtracting, adding incorrectly, or using the wrong total. Align the operation with whether the quantity increased or decreased. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

95. D — South changes the vertical coordinate to 2, and east changes the horizontal coordinate to 8. The other choices exchange the axes or omit one movement. Keep the axis labels fixed while applying the route. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

96. B — The checklist directly labels the physical condition as an observation. The other choices are conclusions that require additional testing or evidence. Separate what was seen from what is inferred. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

97. C — The three verbs inspected, measured, and recorded use the same past-tense form in one list. The other choices mix structures or break the grammatical connection between the items. Parallel lists make a procedure easier to read and follow. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

98. A — Fifteen percent is 0.15, and 0.15 multiplied by 240 equals 36. The alternatives use a different percentage or a mistaken multiplication. Convert a percent to a decimal before multiplying. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

99. B — The valid sequence satisfies all three stated precedence rules. Each other sequence places at least one action before its required predecessor. Ordering questions are solved by checking every

required relationship, not just the first step. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

100. D — The solenoid closes a high-current path and, in many designs, moves the starter gear into engagement. Fuel filtration, coolant regulation, and alignment are unrelated functions. A control signal can command both an electrical and mechanical starter action. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

101. A — Ohm’s law gives current as voltage divided by resistance, so 12 divided by 4 equals 3 amperes. The other values result from reversing the relationship or multiplying the quantities incorrectly. Keep voltage, resistance, and current in their proper roles. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

102. C — A crimping tool forms the terminal barrel around the conductor with the intended pressure and profile. The other tools can deform, mark, or strike a part but cannot create a consistent electrical crimp. A sound connection requires both correct preparation and controlled deformation. This is the governing distinction in the scenario.

103. D — Three fourths of 64 is 3 multiplied by 64 divided by 4, which equals 48. The other choices represent one fourth, one half, or an excessive amount. Apply the numerator and denominator to the same quantity. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

104. C — The passage explicitly says the recommendation is conditional and does not apply universally. The other choices turn a limited recommendation into an absolute rule. Qualified language often signals the scope of a conclusion. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

105. A — Contacting teeth move in opposite tangential directions at the mesh point. The other choices do not describe the motion of two meshing external gears. Gear direction follows the geometry of tooth contact. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

106. B — Repeating the noun supervisor and naming the form removes ambiguity about what each pronoun refers to. The other choices leave the pronoun reference unclear or introduce an unnecessary shift. Clarity is more important than avoiding a small amount of repetition. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

107. D — The pattern alternates multiplying by two and subtracting one; after 25, doubling gives 50. The other choices ignore the alternating operations. Inductive reasoning can involve a repeating cycle rather than one operation. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

108. A — Oil forms a separating film, transports heat, and carries suspended contaminants toward filtration. Octane, tire traction, and fan operation are not the principal functions of engine oil.

Lubrication is both a friction-control and heat-management process. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

109. B — Isolation removes the immediate electrical hazard before mechanical cleaning begins. Changing voltage, shorting terminals, or covering corrosion leaves the hazard or defect in place. Safety isolation precedes cleaning, testing, and reassembly. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

110. C — Vehicle’s shows that one vehicle possesses or is associated with the battery. The other choices omit the apostrophe, make the noun plural, or place the apostrophe incorrectly. Use the possessive form that matches the number of owners. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

111. C — The ratio has seven total parts, so each part is 42 divided by 7, or 6; two parts equal 12. The other values do not preserve the two-to-five ratio within 42. Add ratio parts before assigning the total quantity. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

112. A — The valid sequence preserves the required order from preparation through documentation. The other sequences move an action ahead of a required prerequisite. Use the stated precedence constraints as a checklist. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

113. D — The correct sequence confirms the complaint before testing, isolation, repair, and retest. The other sequences diagnose or repair before completing the required earlier step. A sound sequence protects the diagnosis from assumptions. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

114. B — The passage emphasizes that the crew identified a problem, assigned responsibilities, and completed prerequisites before inspection. The other choices contradict the sequence or introduce actions not described. Main-idea questions ask for the broad point supported by the whole passage. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

115. A — A test light provides a quick indication of potential at the probe point when its return path is sound. The other tools measure mechanical properties and cannot indicate electrical potential. Use the instrument that answers the immediate diagnostic question. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

116. D — Soft jaws cushion the work surface and spread contact so the vise can hold without gouging. They do not alter current, sharpen material, or substitute for dimensional checks. Protection of the workpiece is part of correct tool setup. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

117. B — The correct sentence states the same sequence directly with active verbs and no unnecessary phrases. The other choices use wordy nominalizations or repeated passive constructions. Concise

technical writing keeps the action and order visible. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

118. C — The sequence isolates the circuit, performs cleaning, verifies the result, and then tests. The other sequences clean before isolation or reconnect before inspection. Safe ordering puts isolation before contact and power-related work. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

119. D — The repair is within the group covered by the rule, so a documented retest is required. The other choices are not consequences of completion and conflict with verification. Deduction connects category membership to the required action. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

120. C — A turning vehicle requires the outside tire to cover more distance, so the differential permits speed difference. Electrical voltage, axle disconnection, and loss of grip do not explain normal differential action. The mechanism accommodates geometry while continuing to transmit drive. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

121. A — A confined fluid transfers applied pressure to other surfaces in the system. The other choices invent material changes or unrelated functions. Hydraulic systems use pressure transmission to multiply or redirect force. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

122. B — The sum is 48, and dividing by the three values gives an average of 16. The alternatives do not equal the total divided by the number of observations. An average is a total shared equally among the observations. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

123. A — A vernier caliper has jaws for outside and inside measurements and often includes a depth rod. The other tools apply force or heat but do not provide a calibrated dimensional reading. Choose a versatile measuring instrument when several dimensions must be compared. This is the governing distinction in the scenario.

124. C — The differences are 3, 6, 9, and then 12, so 30 plus 12 equals 42. The alternatives do not continue the increasing multiples of three. Examine how the differences themselves change when the sequence accelerates. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

125. B — The master cylinder moves fluid under pressure through the brake circuit. The other choices involve unrelated fuel, cooling, or tire functions. Brake diagnosis begins by identifying how mechanical input becomes hydraulic force. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

126. D — The rule makes a loose connection a possible explanation, but the effect alone does not prove that cause. The other choices claim certainty or reject the need for diagnosis. Distinguish what a rule

permits from what it proves. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

127. B — Distance equals rate times time, so 55 multiplied by 5.5 equals 302.5 miles. The other values use a rounded time or an incorrect multiplication. Keep the time unit consistent with the rate. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

128. C — West changes -1 to -5 and south changes 2 to -2. The other options reverse one direction or change the wrong coordinate. Direction signs remain important when the starting point is negative. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

129. A — The hot condition means the cooling prerequisite has not been met. The other choices increase the hazard or skip the stated precaution. Safety deductions often identify the required pause before a task. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

130. D — There are 12 inches per foot, so 3.2 multiplied by 12 equals 38.4 inches. The other values use the wrong conversion factor or an incomplete conversion. Write the unit factor so the original unit cancels. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

131. A — The passage places the successful second test directly before documentation. The other choices occur earlier, are not stated, or occur after the documentation step. Track explicit sequence words and actions when answering a detail question. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

132. D — Each term is multiplied by three, so 54 times three equals 162. The other values use different multipliers or an unsupported addition. A constant multiplier creates a geometric sequence. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable. It also helps separate the observed symptom from an unrelated possibility.

133. B — Most cutting occurs on the forward stroke, while lifting on return avoids dulling the file teeth. Constant backward pressure and twisting reduce control; an unhandled file can injure the hand. Correct stroke direction improves finish, tool life, and operator control. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

134. C — The sequence subtracts five from each term, so 35 minus five is 30. The other choices change the constant difference. A repeated subtraction is identified by equal gaps between terms. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

135. B — The plural subject readings takes indicate, while the singular noun meter remains correctly modified. The other choices mismatch the subject and verb or leave the sentence incomplete. Locate the

true subject before selecting the verb. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

136. C — Using four quarts per gallon, 2.5 gallons equals 10 quarts. The other values use two, 3.2, or five quarts per gallon. A unit conversion is multiplication by an exact relationship. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

137. D — The rule is triggered only by an out-of-range reading, so an in-range result does not activate it. The other choices claim more than the premise supports. A conditional rule cannot be reversed without additional information. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

138. A — Each term is twice the previous term minus one: 41 times two minus one equals 81. The other choices do not satisfy the same two-step rule. Test a proposed pattern against every transition before accepting it. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

139. A — Bearing surfaces or rolling elements reduce resistance while supporting relative motion. The other choices oppose the purpose of a bearing or belong to another system. A bearing supports motion while controlling contact losses. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

140. D — The timing and response to movement support a conditional harness-related fault, not proof of a failed module. The other choices overstate the evidence or conflict with the observed pattern. An inference should be reasonable and limited to what the evidence supports. This is the governing distinction in the scenario. The same principle supports safe, consistent service decisions.

141. C — Series resistances add directly, so 2 plus 3 plus 5 equals 10 ohms. The other answers use a reciprocal, select one resistor, or multiply instead of adding. Series circuits provide a straightforward resistance sum. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

142. B — Moving east increases the horizontal coordinate by four while leaving the vertical coordinate unchanged. The other positions change the wrong coordinate, use the wrong direction, or change both coordinates. Treat horizontal and vertical movement as separate coordinate changes. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

143. B — The passage directly defines intermittent as a condition that appears and disappears over time. The other choices describe continuous operation, an unsupported cause, or a completed repair. Context clues often define a technical word without requiring outside information. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

144. C — Both completed actions use the past tense, which fits a completed service event. The other choices shift tense without a reason or use an incomplete participial phrase. Consistent tense helps

readers place each action in time. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

145. A — The sequence increases by four each time, so adding four to 16 gives 20. The other choices do not preserve the constant difference. Inductive sequence questions ask for the simplest pattern supported by every term. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

146. D — A lower center of gravity makes the line of action less likely to fall outside the support base. The other choices make tipping more likely by raising or offsetting the load. Stability depends on the relationship between center of gravity and support area. This is the governing distinction in the scenario.

147. B — Effort equals load divided by mechanical advantage, so 50 divided by 4 is 12.5 pounds. The other values use an incorrect ratio or multiply load by advantage. Mechanical advantage reduces effort in proportion to the stated ratio. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

148. C — The stated reason is that the hose length was incorrect, so installation would not meet the specification. The other choices are not supported or directly contradict the passage. A detail answer should use the cause stated in the text. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.

149. D — Equal resistances in parallel combine to half one branch value, so 6 divided by 2 equals 3 ohms. The other values represent one resistor, a series sum, or a product rather than a parallel equivalent. Adding conductance, not resistance, describes parallel behavior. This is the governing distinction in the scenario.

150. A — Common nouns remain lowercase because they are not part of a specific formal name in the sentence. The other choices capitalize ordinary nouns inconsistently. Reserve capitals for sentence beginnings and proper names. This is the governing distinction in the scenario. Using that rule avoids an unsafe shortcut and keeps the diagnosis repeatable.