

PRACTICE EXAM 11: ELEVATOR INDUSTRY APTITUDE TEST SIMULATION (100 QUESTIONS)

This original 100-question practice simulation covers basic arithmetic, reading comprehension, mechanical comprehension, and general tool knowledge. NEIEP publishes a minimum passing score of 70 percent but does not publish an official 100-question blueprint; use 70 correct as the practice benchmark. Choose the single best answer for each question.

1. A shipment contains 23 small rollers and 19 large rollers. How many rollers are there altogether?
 - A. 32
 - B. 41
 - C. 42
 - D. 52

2. A 156-inch cable is divided into 12 equal sections. How long is each section?
 - A. 13
 - B. 12
 - C. 14
 - D. 16

3. What is 28 percent of 350?
 - A. 88
 - B. 98
 - C. 92
 - D. 112

4. A crew worked 6.75 hours before lunch and 2.5 hours afterward. What was the total time?
 - A. 8.25
 - B. 9.0
 - C. 9.75
 - D. 9.25

5. Convert 8 feet 7 inches to inches.
 - A. 95
 - B. 104
 - C. 103
 - D. 115

6. A carton has 168 washers packed equally into 14 bags. How many washers are in each bag?
- A. 12
 - B. 10
 - C. 14
 - D. 16
7. A replacement part is marked down from \$85 by \$17. What is the sale price?
- A. 62
 - B. 72
 - C. 102
 - D. 68
8. What is $\frac{5}{6}$ of 72?
- A. 12
 - B. 60
 - C. 54
 - D. 66
9. A 20-foot rope has 67 inches removed. How many inches remain?
- A. 173
 - B. 153
 - C. 167
 - D. 187
10. A platform travels 540 feet in 9 minutes. What is the average speed in feet per minute?
- A. 54
 - B. 64
 - C. 90
 - D. 60
11. Add $4\frac{2}{3}$ and $2\frac{1}{6}$.
- A. 6.5
 - B. 6.833333
 - C. 6.666667
 - D. 7.166667

12. A rectangular work area measures 13 feet by 8 feet. What is its area?

- A. 21
- B. 42
- C. 104
- D. 96

13. A \$468 invoice is split equally among 6 service calls. How much is charged to each call?

- A. 72
- B. 76
- C. 78
- D. 82

14. Subtract 26.85 from 63.4.

- A. 35.55
- B. 36.55
- C. 36.45
- D. 37.55

15. A worker completed 63 of 84 inspections. What percentage is complete?

- A. 70
- B. 72
- C. 80
- D. 75

16. What is the perimeter of a rectangle that is 14 feet long and 9 feet wide?

- A. 46
- B. 23
- C. 42
- D. 126

17. A 12-gallon tank is 75 percent full. How many gallons does it contain?

- A. 7
- B. 9
- C. 8
- D. 10

18. Eight identical plates weigh 22 pounds. What is the weight of one plate?

- A. 2.75
- B. 2.25
- C. 2.5
- D. 3.5

19. What is $\frac{11}{16}$ expressed as a decimal?

- A. 0.625
- B. 0.725
- C. 0.6875
- D. 0.8125

20. A technician begins at 8:35 a.m. and works for 3 hours 20 minutes. When does the task end?

- A. 11:45 a.m.
- B. 12:05 p.m.
- C. 12:55 p.m.
- D. 11:55 a.m.

21. A reel contains 375 feet of conductor. If 148 feet are used, how many feet remain?

- A. 217
- B. 223
- C. 227
- D. 237

22. Evaluate $18 - 3 \times 4$ using standard order of operations.

- A. 60
- B. 6
- C. 12
- D. 48

23. A ramp rises 5 inches for each 20 inches of run. What is the rise over an 84-inch run?

- A. 16.8
- B. 20
- C. 24
- D. 21

24. What is the average of 16, 22, 27, and 35?

- A. 25
- B. 23
- C. 24
- D. 26

25. A quantity decreases from 150 to 126. What is the percent decrease?

- A. 14
- B. 18
- C. 24
- D. 16

26. Read the passage: The maintenance note says the north car will be tested at 7:00 a.m. Before testing, Rosa must post notices at every landing and confirm that the car is empty. Devon will remain in the machine room and record motor temperature after each run. Question: At what time will testing begin?

- A. 6:00 a.m.
- B. 7:00 a.m.
- C. 8:00 a.m.
- D. Noon

27. Read the passage: The maintenance note says the north car will be tested at 7:00 a.m. Before testing, Rosa must post notices at every landing and confirm that the car is empty. Devon will remain in the machine room and record motor temperature after each run. Question: Who must post notices at every landing?

- A. Rosa
- B. Devon
- C. The building manager
- D. Every passenger

28. Read the passage: The maintenance note says the north car will be tested at 7:00 a.m. Before testing, Rosa must post notices at every landing and confirm that the car is empty. Devon will remain in the machine room and record motor temperature after each run. Question: What must be confirmed before testing?

- A. The motor is cold
- B. The doors are painted
- C. The car is empty
- D. The lobby is closed

29. Read the passage: The maintenance note says the north car will be tested at 7:00 a.m. Before testing, Rosa must post notices at every landing and confirm that the car is empty. Devon will remain in the machine room and record motor temperature after each run. Question: Where will Devon remain?

- A. In the machine room
- B. At every landing
- C. Inside the car
- D. Outside the building

30. Read the passage: The maintenance note says the north car will be tested at 7:00 a.m. Before testing, Rosa must post notices at every landing and confirm that the car is empty. Devon will remain in the machine room and record motor temperature after each run. Question: What will Devon record?

- A. Passenger names before each run
- B. Motor temperature after each run
- C. Building height once
- D. Cable color at lunch

31. Read the passage: A supply order requested six door rollers, two limit switches, and one coil of wire. The vendor delivered all six rollers and the wire, but only one limit switch. Keisha marked the shortage on the receipt before signing it. Question: How many door rollers were requested?

- A. One
- B. Two
- C. Eight
- D. Six

32. Read the passage: A supply order requested six door rollers, two limit switches, and one coil of wire. The vendor delivered all six rollers and the wire, but only one limit switch. Keisha marked the shortage on the receipt before signing it. Question: Which item was short?

- A. A door roller
- B. The coil of wire
- C. A limit switch
- D. The receipt

33. Read the passage: A supply order requested six door rollers, two limit switches, and one coil of wire. The vendor delivered all six rollers and the wire, but only one limit switch. Keisha marked the shortage on the receipt before signing it. Question: What did the vendor deliver completely besides the rollers?

- A. The coil of wire
- B. Both limit switches
- C. A second receipt
- D. Six switches

34. Read the passage: A supply order requested six door rollers, two limit switches, and one coil of wire. The vendor delivered all six rollers and the wire, but only one limit switch. Keisha marked the shortage on the receipt before signing it. Question: When did Keisha mark the shortage?

- A. After returning the shipment
- B. Before placing the order
- C. Before signing the receipt
- D. After installing the switch

35. Read the passage: A supply order requested six door rollers, two limit switches, and one coil of wire. The vendor delivered all six rollers and the wire, but only one limit switch. Keisha marked the shortage on the receipt before signing it. Question: Why was the receipt marked?

- A. To change the roller quantity
- B. To document the missing item
- C. To measure the wire
- D. To approve an extra switch

36. Read the passage: The afternoon plan assigns floors four through eight to Jamal. He will inspect each sill, remove loose debris, and report any damaged fasteners. He should not replace parts until the supervisor reviews the inspection list. Question: Which floors are assigned to Jamal?

- A. Floors one through three
- B. Only floor eight
- C. Every floor above eight
- D. Floors four through eight

37. Read the passage: The afternoon plan assigns floors four through eight to Jamal. He will inspect each sill, remove loose debris, and report any damaged fasteners. He should not replace parts until the supervisor reviews the inspection list. Question: What should Jamal remove?

- A. Every sill
- B. All fasteners
- C. The inspection list
- D. Loose debris

38. Read the passage: The afternoon plan assigns floors four through eight to Jamal. He will inspect each sill, remove loose debris, and report any damaged fasteners. He should not replace parts until the supervisor reviews the inspection list. Question: What condition must Jamal report?

- A. Clean sills
- B. Working lights
- C. Damaged fasteners
- D. Closed offices

39. Read the passage: The afternoon plan assigns floors four through eight to Jamal. He will inspect each sill, remove loose debris, and report any damaged fasteners. He should not replace parts until the supervisor reviews the inspection list. Question: When may parts be replaced?

- A. After supervisor review
- B. Before any inspection
- C. During debris removal
- D. Without an inspection list

40. Read the passage: The afternoon plan assigns floors four through eight to Jamal. He will inspect each sill, remove loose debris, and report any damaged fasteners. He should not replace parts until the supervisor reviews the inspection list. Question: What is the main purpose of the plan?

- A. To schedule passenger service
- B. To organize inspection and follow-up work
- C. To advertise replacement parts
- D. To cancel all maintenance

41. Read the passage: A notice near the service elevator states that freight longer than seven feet must enter through the loading dock. Loads must be centered on the car floor, and the gate must close freely before the car is moved. Report any gate obstruction to security. Question: Where must freight longer than seven feet enter?

- A. Through the main lobby
- B. Through the machine room
- C. Through a stairwell
- D. Through the loading dock

42. Read the passage: A notice near the service elevator states that freight longer than seven feet must enter through the loading dock. Loads must be centered on the car floor, and the gate must close freely before the car is moved. Report any gate obstruction to security. Question: Where should loads be positioned?

- A. Against the gate
- B. On one side
- C. Centered on the car floor
- D. Above the doorway

43. Read the passage: A notice near the service elevator states that freight longer than seven feet must enter through the loading dock. Loads must be centered on the car floor, and the gate must close freely before the car is moved. Report any gate obstruction to security. Question: What must happen before the car moves?

- A. The gate must close freely
- B. Security must ride inside
- C. The load must exceed seven feet
- D. The dock must close

44. Read the passage: A notice near the service elevator states that freight longer than seven feet must enter through the loading dock. Loads must be centered on the car floor, and the gate must close freely before the car is moved. Report any gate obstruction to security. Question: Who should receive a report of an obstruction?

- A. A passenger
- B. The vendor
- C. Security
- D. The delivery recipient only

45. Read the passage: A notice near the service elevator states that freight longer than seven feet must enter through the loading dock. Loads must be centered on the car floor, and the gate must close freely before the car is moved. Report any gate obstruction to security. Question: In this notice, 'obstruction' most nearly means what?

- A. A measurement
- B. A blockage
- C. A schedule
- D. A payment

46. Read the passage: During three test runs, the car stopped level at the first and third floors. At the second floor it stopped one-quarter inch high each time. Mei recorded all three measurements, tagged the unit, and asked the mechanic to check the leveling system. Question: At which floor did the car stop high?

- A. The second floor
- B. The first floor
- C. The third floor
- D. Every floor

47. Read the passage: During three test runs, the car stopped level at the first and third floors. At the second floor it stopped one-quarter inch high each time. Mei recorded all three measurements, tagged the unit, and asked the mechanic to check the leveling system. Question: How far high did the car stop?

- A. One-half inch
- B. One inch
- C. Two inches
- D. One-quarter inch

48. Read the passage: During three test runs, the car stopped level at the first and third floors. At the second floor it stopped one-quarter inch high each time. Mei recorded all three measurements, tagged the unit, and asked the mechanic to check the leveling system. Question: How many test runs were performed?

- A. One
- B. Three
- C. Two
- D. Four

49. Read the passage: During three test runs, the car stopped level at the first and third floors. At the second floor it stopped one-quarter inch high each time. Mei recorded all three measurements, tagged the unit, and asked the mechanic to check the leveling system. Question: What did Mei do after recording the measurements?

- A. Removed the leveling system
- B. Returned the car to passengers
- C. Changed the floor height
- D. Tagged the unit

50. Read the passage: During three test runs, the car stopped level at the first and third floors. At the second floor it stopped one-quarter inch high each time. Mei recorded all three measurements, tagged the unit, and asked the mechanic to check the leveling system. Question: What system did Mei ask the mechanic to check?

- A. The building alarm
- B. The leveling system
- C. The freight schedule
- D. The ventilation fan

51. When three external gears mesh in a row, the first turns clockwise. How does the third turn?

- A. Counterclockwise
- B. It remains stationary
- C. Clockwise
- D. It changes direction randomly

52. A worker doubles the distance from a lever's fulcrum while applying the same force. What happens to turning effect?

- A. It doubles
- B. It halves
- C. It becomes zero
- D. It stays unchanged

53. An ideal movable pulley supports a load with two rope sections. What happens to required effort?

- A. It approximately doubles
- B. It becomes greater than the load
- C. It is approximately halved
- D. It changes only direction

54. A hydraulic piston has twice the area of the input piston. Ignoring losses, how does its output force compare?
- A. It is half as large
 - B. It is unchanged
 - C. It becomes zero
 - D. It is twice as large
55. A tall cabinet is least likely to tip when heavy items are stored where?
- A. Near the bottom
 - B. Near the top
 - C. Beyond one side
 - D. On an open door
56. A large pulley drives a smaller pulley with an uncrossed belt. The smaller pulley generally turns how?
- A. Slower in the opposite direction
 - B. Faster in the same direction
 - C. At the same speed backward
 - D. Without rotating
57. A steel shaft is cooled substantially. What generally happens to its length?
- A. It expands
 - B. It gains mass
 - C. It becomes weightless
 - D. It contracts
58. A load is moved closer to the fulcrum of a lever. With effort distance unchanged, what happens to needed effort?
- A. It decreases
 - B. It increases
 - C. It becomes unrelated to load
 - D. It always equals load
59. What is the main advantage of rollers placed under a heavy object?
- A. They increase object mass
 - B. They eliminate gravity
 - C. They replace sliding friction with rolling friction
 - D. They raise surface roughness

60. A closed switch completes a simple circuit. What can then occur?

- A. Current must stop
- B. Current can flow
- C. Resistance becomes infinite
- D. The source loses polarity

61. Two identical springs are connected end to end. Compared with one spring, the combination is generally what?

- A. More stiff
- B. Less stiff
- C. Unable to stretch
- D. Exactly twice as stiff

62. Two pulleys are linked by an uncrossed belt. How do they rotate relative to one another?

- A. In opposite directions
- B. Only counterclockwise
- C. In the same direction
- D. Without a fixed relationship

63. What usually happens when lubricant is contaminated with grit?

- A. Friction always disappears
- B. All surfaces harden
- C. The load becomes lighter
- D. Wear can increase

64. An object's vertical weight line moves beyond its support base. What is likely to happen?

- A. The object tips
- B. The object becomes more stable
- C. Gravity stops acting
- D. Its mass becomes zero

65. A screw jack converts handle rotation mainly into what?

- A. A strong linear lifting force
- B. A magnetic field only
- C. A free-falling motion
- D. A loss of all friction

- 66.** Water enters a pipe section that widens. For steady incompressible flow, its speed generally does what?
- A. Increases without limit
 - B. Remains zero
 - C. Reverses automatically
 - D. Decreases
- 67.** Which simple machine is represented by a ramp?
- A. A fixed pulley
 - B. An inclined plane
 - C. A wheel and axle only
 - D. A screw thread only
- 68.** The same force is spread over twice the area. What happens to pressure?
- A. It doubles
 - B. It stays unchanged
 - C. It is halved
 - D. It becomes negative
- 69.** Why does a heavier counterweight require care when an elevator car is lightly loaded?
- A. It removes all rope tension
 - B. It prevents any sheave rotation
 - C. It makes gravity disappear
 - D. It can strongly favor upward car motion
- 70.** Which energy increases when an object is raised higher?
- A. Sound energy only
 - B. Chemical energy always
 - C. Gravitational potential energy
 - D. Nuclear energy
- 71.** A machine delivers 80 units of useful work from 100 units of input. What is its efficiency?
- A. 80 percent
 - B. 20 percent
 - C. 100 percent
 - D. 125 percent

72. A load is placed farther from the edge of a platform and nearer its center. Stability generally does what?
- A. Decreases
 - B. Increases
 - C. Becomes impossible
 - D. Depends only on color
73. What occurs when opposite magnetic poles approach each other?
- A. They attract
 - B. They repel
 - C. They lose mass
 - D. They produce no force
74. A circuit breaker repeatedly trips after a motor starts. What condition is it most directly responding to?
- A. Normal labeling
 - B. Low room noise
 - C. Wire color
 - D. Excessive current
75. Why does adding a diagonal member stiffen a rectangular frame?
- A. It removes all joints
 - B. It guarantees flexibility
 - C. It forms rigid triangles
 - D. It eliminates compression
76. Which tool is used to measure the depth of a narrow hole accurately?
- A. A claw hammer
 - B. A depth micrometer
 - C. A pipe vise
 - D. A chalk reel
77. Which wrench is most suitable for tightening a flare nut on tubing?
- A. A strap wrench
 - B. A flare-nut wrench
 - C. A chain wrench
 - D. A basin scraper

78. What tool is used to enlarge and finish a drilled hole accurately?

- A. A nail set
- B. A cold chisel
- C. A wire brush
- D. A reamer

79. Which tool cuts copper tubing cleanly with a rotating wheel?

- A. A tubing cutter
- B. A wood auger
- C. A brick trowel
- D. A bearing puller

80. Which instrument checks electrical resistance?

- A. A pressure gauge
- B. A torque wrench
- C. An ohmmeter
- D. A plumb bob

81. Before using a ladder, what should be checked first?

- A. Its condition and secure placement
- B. Only its paint color
- C. The nearest tool brand
- D. The worker's shoe size

82. Which tool supports a round workpiece while it is being cut or threaded?

- A. A try square
- B. A soldering iron
- C. A pipe vise
- D. A feeler gauge

83. What should be done with a wrench that has spread jaws?

- A. Strike it with a hammer
- B. Use a larger cheater pipe
- C. Grind the fastener smaller
- D. Remove it from service

84. Which tool removes a damaged screw by gripping a drilled pilot hole?

- A. A countersink
- B. A screw extractor
- C. A center gauge
- D. A hand seamer

85. Which tool creates a conical recess so a flat-head screw sits flush?

- A. A tap
- B. A countersink
- C. A die
- D. A pipe reamer

86. What is the purpose of a continuity tester?

- A. To detect a complete conductive path
- B. To measure bolt torque
- C. To cut wire insulation
- D. To align two shafts

87. Which pliers are designed to install and remove retaining rings?

- A. Lineman's pliers
- B. Locking sheet clamps
- C. End-cutting nippers
- D. Snap-ring pliers

88. Why should a file have a properly fitted handle?

- A. To harden the workpiece
- B. To increase electrical current
- C. To protect the hand from the tang
- D. To measure the cut

89. Which tool marks a line parallel to the edge of a workpiece?

- A. A gear puller
- B. A marking gauge
- C. A pipe die
- D. A grease gun

90. What does a dial indicator measure effectively?

- A. Large fluid volume
- B. Wire color
- C. Room humidity only
- D. Small movement or runout

91. Which striking tool is preferred when a metal surface must not be marred?

- A. A framing hammer
- B. A cold chisel
- C. A soft-face mallet
- D. A center punch

92. Which tool finds vertical alignment using gravity?

- A. A plumb bob
- B. A tap wrench
- C. A pipe cutter
- D. A torque adapter

93. What should be verified before using a portable electric tool in a damp location?

- A. Only the case color
- B. The loudest speed setting
- C. The longest available cord
- D. Required protection and tool suitability

94. Which tool separates two tightly fitted components without hammering them apart?

- A. A bearing separator
- B. A chalk line
- C. A solder sucker
- D. A framing square

95. Why should a cracked grinding wheel be discarded?

- A. It will measure voltage
- B. It makes the cord shorter
- C. It may break apart at speed
- D. It prevents all rotation

96. Which tool transfers an angle from one surface to another?

- A. A plug tap
- B. A sliding bevel
- C. A pipe wrench
- D. A cable cutter

97. What is the purpose of a C-clamp?

- A. To test circuit voltage
- B. To cut a keyway
- C. To hold workpieces together temporarily
- D. To measure thread pitch

98. Which tool is used to crimp a connector onto an electrical conductor?

- A. A masonry chisel
- B. A crimping tool
- C. A hand plane
- D. A chain wrench

99. Before mounting an abrasive wheel, what simple test may reveal hidden cracks in suitable vitrified wheels?

- A. A ring test
- B. A pull test
- C. A voltage drop test
- D. A color test

100. Which instrument measures electric current in a circuit?

- A. A bevel gauge
- B. A torque multiplier
- C. A depth stop
- D. An ammeter

PRACTICE EXAM 11: ANSWER KEY AND EXPLANATIONS

- 1. C** - The correct answer is C. Adding 23 and 19 gives 42 rollers. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.
- 2. A** - The correct answer is A. Dividing 156 by 12 gives 13 inches per section. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 3. B** - The correct answer is B. Multiplying 350 by 0.28 gives 98. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.
- 4. D** - The correct answer is D. Adding the two work periods gives 9.25 hours. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 5. C** - The correct answer is C. Eight feet equals 96 inches; adding 7 gives 103 inches. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 6. A** - The correct answer is A. Dividing 168 washers by 14 bags gives 12 per bag. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 7. D** - The correct answer is D. Subtracting the 17-dollar reduction from 85 gives 68 dollars. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 8. B** - The correct answer is B. Multiplying 72 by five-sixths gives 60. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.
- 9. A** - The correct answer is A. Twenty feet is 240 inches; subtracting 67 leaves 173 inches. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 10. D** - The correct answer is D. Dividing 540 feet by 9 minutes gives 60 feet per minute. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.
- 11. B** - The correct answer is B. Converting to sixths and adding gives $6\frac{5}{6}$, approximately 6.833333. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

12. C - The correct answer is C. Multiplying length by width gives 104 square feet. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

13. C - The correct answer is C. Dividing 468 dollars by 6 calls gives 78 dollars per call. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

14. B - The correct answer is B. Aligning decimals and subtracting gives 36.55. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.

15. D - The correct answer is D. The fraction 63 over 84 equals 0.75, or 75 percent. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

16. A - The correct answer is A. Adding length and width and doubling gives 46 feet. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

17. B - The correct answer is B. Multiplying 12 gallons by 0.75 gives 9 gallons. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

18. A - The correct answer is A. Dividing 22 pounds by 8 gives 2.75 pounds per plate. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

19. C - The correct answer is C. Dividing 11 by 16 gives 0.6875. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.

20. D - The correct answer is D. Adding three hours reaches 11:35, and twenty more minutes reaches 11:55 a.m. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

21. C - The correct answer is C. Subtracting 148 from 375 leaves 227 feet. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.

22. B - The correct answer is B. Multiplication comes first: 3 times 4 is 12, and 18 minus 12 is 6. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

23. D - The correct answer is D. The rise-to-run ratio is one-fourth, and one-fourth of 84 is 21 inches. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for

another task.

24. A - The correct answer is A. The values total 100, and dividing by four gives an average of 25. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

25. D - The correct answer is D. The decrease is 24; dividing 24 by the original 150 gives 16 percent. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

26. B - The correct answer is B. The first sentence explicitly schedules testing for 7:00 a.m. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

27. A - The correct answer is A. The passage assigns the landing notices to Rosa. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

28. C - The correct answer is C. The note requires confirmation that the car contains no occupants. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

29. A - The correct answer is A. The passage places Devon in the machine room during the test. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

30. B - The correct answer is B. The final clause identifies motor temperature as Devon's recorded measurement. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

31. D - The correct answer is D. The order requested six door rollers. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.

32. C - The correct answer is C. Only one of the two requested limit switches arrived. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

33. A - The correct answer is A. The passage states that the wire arrived with all six rollers. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

34. C - The correct answer is C. The sequence says Keisha noted the shortage before she signed. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors

either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

35. B - The correct answer is B. Marking the receipt preserves a record of the incomplete delivery. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

36. D - The correct answer is D. The opening sentence defines Jamal's assigned floor range. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

37. D - The correct answer is D. The plan specifically tells Jamal to remove loose debris. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

38. C - The correct answer is C. Damaged fasteners are the condition named for reporting. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

39. A - The correct answer is A. Replacement must wait until the supervisor reviews the list. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

40. B - The correct answer is B. The passage sequences inspection, cleaning, reporting, and supervisory review. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

41. D - The correct answer is D. The notice directs oversized freight to the loading dock. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

42. C - The correct answer is C. The notice requires loads to be centered on the floor. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

43. A - The correct answer is A. Free gate closure is the stated condition before movement. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

44. C - The correct answer is C. The final sentence directs obstruction reports to security. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

45. B - The correct answer is B. An obstruction is something preventing the gate from closing freely. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors

either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

46. A - The correct answer is A. The passage identifies only the second floor as high. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

47. D - The correct answer is D. The measured discrepancy was one-quarter inch. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task. Careful comparison confirms the selection.

48. B - The correct answer is B. The passage begins by stating that three runs occurred. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

49. D - The correct answer is D. The stated sequence places tagging immediately after recording. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

50. B - The correct answer is B. The repeated height error led to a request to inspect leveling. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

51. C - The correct answer is C. Each gear reverses direction, so two reversals make the third match the first. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

52. A - The correct answer is A. Torque equals force times perpendicular distance, so doubling distance doubles torque. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

53. C - The correct answer is C. Two supporting rope sections share the load, giving an ideal mechanical advantage of two. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

54. D - The correct answer is D. Equal fluid pressure acting over twice the area produces twice the output force. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

55. A - The correct answer is A. Low storage lowers the combined center of gravity and improves stability. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

56. B - The correct answer is B. An open belt preserves direction, while the smaller circumference produces higher rotational speed. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

57. D - The correct answer is D. Most metals contract as temperature decreases because atomic spacing becomes slightly smaller. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

58. A - The correct answer is A. Reducing the load arm reduces load torque, so less effort is required for balance. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

59. C - The correct answer is C. Rolling friction is generally lower than sliding friction, making the load easier to move. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

60. B - The correct answer is B. Closing the switch creates a continuous conducting path through which current can flow. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

61. B - The correct answer is B. Series springs share extension and produce a lower equivalent stiffness than either spring alone. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

62. C - The correct answer is C. An uncrossed belt contacts corresponding sides of both pulleys, preserving rotational direction. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

63. D - The correct answer is D. Abrasive particles in lubricant can score surfaces and accelerate wear instead of reducing it. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

64. A - The correct answer is A. Once the weight line falls outside the base, gravity creates an overturning moment. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

65. A - The correct answer is A. The screw's helical thread converts rotational input into controlled linear motion and force. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

66. D - The correct answer is D. Continuity requires lower velocity where the available flow area becomes larger. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The

distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

67. B - The correct answer is B. A ramp spreads elevation change over distance, which is the function of an inclined plane. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

68. C - The correct answer is C. Pressure equals force divided by area, so doubling area halves pressure. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

69. D - The correct answer is D. The imbalance between counterweight and light car can create a substantial driving tendency. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

70. C - The correct answer is C. Raising mass increases its stored gravitational energy relative to a lower reference position. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

71. A - The correct answer is A. Efficiency is useful output divided by input, so 80 divided by 100 equals 80 percent. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

72. B - The correct answer is B. Moving the load inward keeps its weight line farther from the tipping edge. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

73. A - The correct answer is A. Unlike magnetic poles exert an attractive force on one another. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

74. D - The correct answer is D. A breaker opens when current exceeds its protective operating threshold. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

75. C - The correct answer is C. The diagonal divides the frame into triangles that resist racking and shape change. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

76. B - The correct answer is B. A depth micrometer is designed to measure recesses and hole depth precisely. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

77. B - The correct answer is B. A flare-nut wrench surrounds more of the fitting while clearing the tube. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

78. D - The correct answer is D. A reamer removes a small amount of material to size and finish a hole. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

79. A - The correct answer is A. A tubing cutter scores progressively around the tube for a square, controlled cut. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

80. C - The correct answer is C. An ohmmeter measures resistance in ohms, normally on a de-energized circuit. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

81. A - The correct answer is A. Inspection and stable placement address defects, slipping, and setup hazards before climbing. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

82. C - The correct answer is C. A pipe vise grips cylindrical work securely without relying on hand strength. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

83. D - The correct answer is D. Spread jaws can slip and round fasteners, so the damaged wrench should not be used. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

84. B - The correct answer is B. A screw extractor bites into the pilot hole and turns the damaged screw out. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

85. B - The correct answer is B. A countersink cuts the angled seat required by a flat-head fastener. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

86. A - The correct answer is A. A continuity tester indicates whether an unbroken electrical path exists between test points. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

87. D - The correct answer is D. Snap-ring pliers engage the ring holes or ends for controlled expansion or compression. This choice matches the exact operation, detail, mechanical principle, or tool function requested by

the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

88. C - The correct answer is C. A handle covers the pointed tang and provides a secure gripping surface. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

89. B - The correct answer is B. A marking gauge references an edge while its point scribes a parallel line. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

90. D - The correct answer is D. A dial indicator magnifies small displacement for alignment and runout checks. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

91. C - The correct answer is C. A soft-face mallet delivers impact while reducing dents and surface marks. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

92. A - The correct answer is A. A suspended plumb bob establishes a true vertical reference line. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

93. D - The correct answer is D. Appropriate protection and equipment rating reduce shock risk in damp conditions. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

94. A - The correct answer is A. A bearing separator applies controlled force behind a fitted component for removal. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

95. C - The correct answer is C. Rotation creates high stress, and a cracked wheel can fragment violently. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

96. B - The correct answer is B. A sliding bevel locks at an existing angle so that angle can be transferred. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

97. C - The correct answer is C. A C-clamp applies adjustable pressure to secure parts during fitting or assembly. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

98. B - The correct answer is B. A crimping tool compresses the connector to form a secure mechanical and electrical joint. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

99. A - The correct answer is A. A sound wheel produces the expected clear tone during a properly performed ring test. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.

100. D - The correct answer is D. An ammeter measures current in amperes when connected using the proper method. This choice matches the exact operation, detail, mechanical principle, or tool function requested by the stem. The distractors either reverse the relationship, use the wrong quantity, overlook a stated fact, or describe equipment intended for another task.