

PRACTICE EXAM 19: ELEVATOR INDUSTRY APTITUDE TEST SIMULATION (100 QUESTIONS)

This independent practice simulation contains 100 questions covering basic arithmetic, mechanical comprehension, reading comprehension, and general tool knowledge. NEIEP does not publicly specify an official EIAT question count or time limit. Select the single best answer for each question. A score of 70% is the official minimum passing grade for the EIAT.

1. A stockroom divides 228 anchors equally among 15 installation kits. How many anchors go in each kit?

- A. 13.2
- B. 17.2
- C. 19.2
- D. 15.2

2. What is 40% of 420?

- A. 158
- B. 178
- C. 168
- D. 188

3. A 132-foot wire run is divided into equal 11-foot sections. How many complete sections are produced?

- A. 12
- B. 10
- C. 11

D. 14

4. Evaluate $12 + 8 \times 9$.

A. 180

B. 84

C. 72

D. 86

5. A rectangular machine pad measures 12 feet by 9 feet. What is its area?

A. 42 square feet

B. 99 square feet

C. 108 square feet

D. 117 square feet

6. Convert 7.25 feet to inches.

A. 84

B. 87

C. 90

D. 93

7. A trainee earns \$32 per hour for 12 straight-time hours. What is the gross pay?

A. \$384

B. \$352

C. \$416

D. \$448

8. What is $\frac{7}{8}$ expressed as a decimal?

- A. 0.85
- B. 0.9
- C. 1
- D. 0.875

9. What is the average of 18, 24, 30, and 36?

- A. 24
- B. 26
- C. 27
- D. 29

10. A spool held 100 meters of cable before 29 meters were used. How many meters remain?

- A. 71
- B. 69
- C. 73
- D. 76

11. A stockroom divides 252 anchors equally among 16 installation kits. How many anchors go in each kit?

- A. 13.75
- B. 17.75
- C. 19.75
- D. 15.75

12. What is 45% of 460?

- A. 197
- B. 207
- C. 217
- D. 227

13. A 144-foot wire run is divided into equal 12-foot sections. How many complete sections are produced?

- A. 10
- B. 12
- C. 11
- D. 14

14. Evaluate $13 + 9 \times 10$.

- A. 220
- B. 90
- C. 105
- D. 103

15. A rectangular machine pad measures 13 feet by 10 feet. What is its area?

- A. 46 square feet
- B. 120 square feet
- C. 130 square feet
- D. 140 square feet

16. Convert 8.25 feet to inches.

- A. 99
- B. 96
- C. 102
- D. 105

17. A trainee earns \$34 per hour for 13 straight-time hours. What is the gross pay?

- A. \$408
- B. \$442
- C. \$476
- D. \$510

18. What is $\frac{8}{8}$ expressed as a decimal?

- A. 1
- B. 0.975
- C. 1.025
- D. 1.125

19. What is the average of 19, 25, 31, and 37?

- A. 25
- B. 27
- C. 30
- D. 28

20. A spool held 108 meters of cable before 32 meters were used. How many meters remain?

- A. 74
- B. 78
- C. 76

D. 81

21. A stockroom divides 276 anchors equally among 17 installation kits. How many anchors go in each kit?

A. 16.2353

B. 14.2353

C. 18.2353

D. 20.2353

22. What is 50% of 500?

A. 240

B. 260

C. 270

D. 250

23. A 156-foot wire run is divided into equal 13-foot sections. How many complete sections are produced?

A. 10

B. 11

C. 12

D. 14

24. Evaluate $14 + 10 \times 11$.

A. 264

B. 124

C. 110

D. 126

25. A rectangular machine pad measures 14 feet by 11 feet. What is its area?

- A. 50 square feet
- B. 154 square feet
- C. 143 square feet
- D. 165 square feet

26. Convert 9.25 feet to inches.

- A. 111
- B. 108
- C. 114
- D. 117

27. A trainee earns \$36 per hour for 14 straight-time hours. What is the gross pay?

- A. \$468
- B. \$540
- C. \$576
- D. \$504

28. What is $\frac{9}{8}$ expressed as a decimal?

- A. 1.1
- B. 1.15
- C. 1.125
- D. 1.25

29. What is the average of 20, 26, 32, and 38?

- A. 26
- B. 28
- C. 29
- D. 31

30. A spool held 116 meters of cable before 35 meters were used. How many meters remain?

- A. 81
- B. 79
- C. 83
- D. 86

31. During Exam 19's maintenance-lab scenario, a trainee is asked: two meshed external gears turn. If the driving gear rotates clockwise, which way does the driven gear rotate?

- A. Clockwise
- B. Counterclockwise
- C. It remains stationary
- D. Its direction is unpredictable

32. During Exam 19's maintenance-lab scenario, a trainee is asked: using a longer wrench on the same bolt primarily increases what?

- A. Bolt diameter
- B. Thread pitch
- C. Tool weight at the bolt
- D. Turning torque

33. During Exam 19's maintenance-lab scenario, a trainee is asked: a single fixed pulley is mainly used to do what?

- A. Double the applied force
- B. Change the direction of force
- C. Cut the load weight in half
- D. Store energy in the rope

34. During Exam 19's maintenance-lab scenario, a trainee is asked: which condition generally lowers sliding friction between two metal surfaces?

- A. Applying a suitable lubricant
- B. Increasing the normal load
- C. Roughening both surfaces
- D. Pressing the surfaces together

35. During Exam 19's maintenance-lab scenario, a trainee is asked: when a small gear drives a larger gear, the larger gear usually turns how?

- A. Faster with less torque
- B. At the same speed and torque
- C. More slowly with less torque
- D. More slowly with greater torque

36. During Exam 19's maintenance-lab scenario, a trainee is asked: why is a wide base used on a lifting device?

- A. To increase the lifted load's mass
- B. To reduce the device's height
- C. To improve resistance to tipping
- D. To eliminate all ground pressure

37. During Exam 19's maintenance-lab scenario, a trainee is asked: in a hydraulic system, pressure applied to a confined fluid is transmitted in what manner?

- A. Equally throughout the fluid
- B. Only downward toward the tank
- C. Only toward the smallest piston
- D. Only along the inlet pipe

38. During Exam 19's maintenance-lab scenario, a trainee is asked: what happens to the effort needed to move a load up an ideal longer, gentler ramp?

- A. The required force increases
- B. The load becomes heavier
- C. The travel distance decreases
- D. The required force decreases

39. During Exam 19's maintenance-lab scenario, a trainee is asked: a beam is balanced on a fulcrum. Moving the effort farther from the fulcrum has what effect?

- A. More effort force is required
- B. Less effort force is required
- C. The load's weight increases
- D. The fulcrum stops supporting force

40. During Exam 19's maintenance-lab scenario, a trainee is asked: why does a sharp cutting edge require less force than a dull edge?

- A. It increases the material's mass
- B. It eliminates friction completely
- C. It concentrates force over a smaller area
- D. It spreads force over a larger area

41. During Exam 19's maintenance-lab scenario, a trainee is asked: if a belt on two pulleys is crossed, the pulleys rotate in which relationship?

- A. In the same direction
- B. Only the smaller pulley turns
- C. Neither pulley can rotate
- D. In opposite directions

42. During Exam 19's maintenance-lab scenario, a trainee is asked: heating a typical metal rod generally causes it to do what?

- A. Contract in length
- B. Expand in length
- C. Lose all stiffness
- D. Remain exactly unchanged

43. During Exam 19's maintenance-lab scenario, a trainee is asked: which arrangement gives the greatest stability to a suspended load?

- A. The center of gravity above the support
- B. The load offset far to one side
- C. The center of gravity directly below the support
- D. The support attached at the lightest edge

44. During Exam 19's maintenance-lab scenario, a trainee is asked: when fluid flows through a narrower section of the same pipe, its speed generally does what?

- A. Increases
- B. Decreases to zero
- C. Remains exactly constant
- D. Reverses direction

45. During Exam 19's maintenance-lab scenario, a trainee is asked: a spring is compressed farther within its elastic range. What happens to its restoring force?

- A. It becomes zero
- B. It reverses permanently
- C. It remains unchanged
- D. It increases

46. During Exam 19's maintenance-lab scenario, a trainee is asked: what is the main advantage of ball bearings between a shaft and housing?

- A. They increase sliding contact area
- B. They reduce friction during rotation
- C. They prevent every form of vibration
- D. They permanently lock the shaft

47. During Exam 19's maintenance-lab scenario, a trainee is asked: if equal forces act in opposite directions on an object, what is the net force?

- A. Twice either force
- B. Equal to the object's weight
- C. Zero
- D. Always directed upward

48. During Exam 19's maintenance-lab scenario, a trainee is asked: a screw converts rotational motion primarily into what?

- A. Random vibration
- B. Heat without motion
- C. Circular motion of the nut only
- D. Linear motion and axial force

49. During Exam 19's maintenance-lab scenario, a trainee is asked: why are structural triangles commonly used in frames?

- A. Their shape resists deformation
- B. They always use less material
- C. Their corners cannot carry force
- D. They eliminate the need for joints

50. During Exam 19's maintenance-lab scenario, a trainee is asked: increasing the number of rope segments supporting an ideal movable pulley load does what?

- A. Increases the load's true weight
- B. Makes the rope move a shorter distance
- C. Reduces the required input force
- D. Eliminates tension in every segment

51. During Exam 19's maintenance-lab scenario, a trainee is asked: what effect does corrosion commonly have on a steel component?

- A. It reduces usable cross-section and strength
- B. It increases precise dimensions
- C. It improves electrical continuity
- D. It guarantees a smoother surface

52. During Exam 19's maintenance-lab scenario, a trainee is asked: when a load is moved closer to a lever's fulcrum, what happens to the load torque?

- A. It increases
- B. It decreases
- C. It becomes independent of distance
- D. It always changes direction

53. During Exam 19's maintenance-lab scenario, a trainee is asked: why does a lower center of gravity improve vehicle or platform stability?

- A. It increases the total weight
- B. A larger tilt is needed before tipping
- C. It removes all side forces
- D. It makes the support base narrower

54. During Exam 19's maintenance-lab scenario, a trainee is asked: which material behavior allows a wire to stretch and return to its original length?

- A. Brittleness
- B. Corrosion
- C. Elasticity
- D. Permanent deformation

55. During Exam 19's maintenance-lab scenario, a trainee is asked: what happens to electrical current in a simple circuit if resistance increases while voltage stays constant?

- A. Current decreases
- B. Current increases
- C. Current remains unchanged
- D. Voltage becomes zero

56. During Exam 19's maintenance-lab scenario, a trainee is asked: why is a counterweight used in a traction elevator system?

- A. To stop the ropes from moving
- B. To increase gravitational acceleration
- C. To remove the need for brakes
- D. To balance much of the car and load

57. During Exam 19's maintenance-lab scenario, a trainee is asked: a larger driven sprocket connected by chain to a smaller driver will usually have what output?

- A. Higher speed and lower torque
- B. Equal speed and equal torque
- C. No rotation under any load
- D. Lower speed and higher torque

58. During Exam 19's maintenance-lab scenario, a trainee is asked: why must a load be centered on a jack saddle?

- A. To reduce side loading and instability
- B. To increase the load's actual weight
- C. To make hydraulic pressure disappear
- D. To shorten the jack's base

59. During Exam 19's maintenance-lab scenario, a trainee is asked: when two identical springs are arranged in parallel, their combined stiffness is generally what?

- A. Less than either spring alone
- B. Greater than one spring alone
- C. Exactly zero
- D. Unrelated to spring stiffness

60. During Exam 19's maintenance-lab scenario, a trainee is asked: what is the effect of adding an idler gear between a driver and driven gear?

- A. It always doubles output speed
- B. It prevents torque transmission
- C. It changes direction relationship without changing the basic ratio
- D. It makes both end gears rotate opposite each other

61. Read this Exam 19 workplace passage: The afternoon crew received a written assignment to inspect three landing doors. Nina checked the sixth floor first, the second floor next, and the lobby last. She

found no problem upstairs, but the lobby door closed slowly. She recorded the observation and left the unit out of service for the mechanic. Question: Which location was inspected first?

- A. The second floor
- B. The lobby
- C. The sixth floor
- D. The machine room

62. Read this Exam 19 workplace passage: The afternoon crew received a written assignment to inspect three landing doors. Nina checked the sixth floor first, the second floor next, and the lobby last. She found no problem upstairs, but the lobby door closed slowly. She recorded the observation and left the unit out of service for the mechanic. Question: Where was the slow-closing door found?

- A. The lobby
- B. The sixth floor
- C. The second floor
- D. The roof

63. Read this Exam 19 workplace passage: The afternoon crew received a written assignment to inspect three landing doors. Nina checked the sixth floor first, the second floor next, and the lobby last. She found no problem upstairs, but the lobby door closed slowly. She recorded the observation and left the unit out of service for the mechanic. Question: What did Nina do after observing the problem?

- A. She erased the assignment
- B. She recorded it
- C. She reopened service
- D. She replaced the motor

64. Read this Exam 19 workplace passage: The afternoon crew received a written assignment to inspect three landing doors. Nina checked the sixth floor first, the second floor next, and the lobby last. She found no problem upstairs, but the lobby door closed slowly. She recorded the observation and left the unit out of service for the mechanic. Question: Why was the unit left out of service?

- A. The written assignment was lost
- B. All doors operated normally
- C. The building was closing permanently
- D. A mechanic needed to evaluate the condition

65. Read this Exam 19 workplace passage: The afternoon crew received a written assignment to inspect three landing doors. Nina checked the sixth floor first, the second floor next, and the lobby last. She found no problem upstairs, but the lobby door closed slowly. She recorded the observation and left the unit out of service for the mechanic. Question: Which statement best summarizes the sequence?

- A. Nina inspected assigned doors and documented one abnormal condition
- B. Nina repaired every door without authorization
- C. Nina inspected only the lobby
- D. Nina returned the unit to service immediately

66. Read this Exam 19 workplace passage: A parts request called for four rollers and eight mounting bolts. The supplier delivered four rollers and six bolts. Devin verified the count against the request, labeled the package incomplete, and emailed purchasing. He stored the package in the hold area rather than issuing it to the field crew. Question: How many mounting bolts were missing?

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

67. Read this Exam 19 workplace passage: A parts request called for four rollers and eight mounting bolts. The supplier delivered four rollers and six bolts. Devin verified the count against the request, labeled the package incomplete, and emailed purchasing. He stored the package in the hold area rather than issuing it to the field crew. Question: What quantity of rollers was delivered?

- A. Two
- B. Six
- C. Four

D. Eight

68. Read this Exam 19 workplace passage: A parts request called for four rollers and eight mounting bolts. The supplier delivered four rollers and six bolts. Devin verified the count against the request, labeled the package incomplete, and emailed purchasing. He stored the package in the hold area rather than issuing it to the field crew. Question: Why was the package labeled incomplete?

- A. The rollers were damaged
- B. The request had no quantities
- C. The package contained extra tools
- D. The bolt count was short

69. Read this Exam 19 workplace passage: A parts request called for four rollers and eight mounting bolts. The supplier delivered four rollers and six bolts. Devin verified the count against the request, labeled the package incomplete, and emailed purchasing. He stored the package in the hold area rather than issuing it to the field crew. Question: Where was the package stored?

- A. In the field truck
- B. In the hold area
- C. At the jobsite
- D. Inside the controller

70. Read this Exam 19 workplace passage: A parts request called for four rollers and eight mounting bolts. The supplier delivered four rollers and six bolts. Devin verified the count against the request, labeled the package incomplete, and emailed purchasing. He stored the package in the hold area rather than issuing it to the field crew. Question: What was Devin's main purpose in emailing purchasing?

- A. To cancel all future orders
- B. To approve field installation
- C. To request a personal tool
- D. To report and resolve the shortage

71. Read this Exam 19 workplace passage: The supervisor's note instructed the crew to meet at 7:15 a.m. in the loading area. Before unloading, they were to inspect the cart, confirm the route was clear, and place protective covering along the finished corridor. Unloading could begin only after the building representative approved the setup. Question: Where was the crew told to meet?

- A. In the loading area
- B. In the elevator car
- C. On the roof
- D. In the office lobby

72. Read this Exam 19 workplace passage: The supervisor's note instructed the crew to meet at 7:15 a.m. in the loading area. Before unloading, they were to inspect the cart, confirm the route was clear, and place protective covering along the finished corridor. Unloading could begin only after the building representative approved the setup. Question: What time was the meeting?

- A. 6:45 a.m.
- B. 7:45 a.m.
- C. 7:15 a.m.
- D. 8:15 a.m.

73. Read this Exam 19 workplace passage: The supervisor's note instructed the crew to meet at 7:15 a.m. in the loading area. Before unloading, they were to inspect the cart, confirm the route was clear, and place protective covering along the finished corridor. Unloading could begin only after the building representative approved the setup. Question: What had to occur before unloading began?

- A. The building representative had to approve the setup
- B. The corridor covering had to be removed
- C. The cart had to be discarded
- D. The route had to be blocked

74. Read this Exam 19 workplace passage: The supervisor's note instructed the crew to meet at 7:15 a.m. in the loading area. Before unloading, they were to inspect the cart, confirm the route was clear, and

place protective covering along the finished corridor. Unloading could begin only after the building representative approved the setup. Question: Why was protective covering placed in the corridor?

- A. To conceal the travel route
- B. To protect the finished surface
- C. To increase cart weight
- D. To replace route inspection

75. Read this Exam 19 workplace passage: The supervisor's note instructed the crew to meet at 7:15 a.m. in the loading area. Before unloading, they were to inspect the cart, confirm the route was clear, and place protective covering along the finished corridor. Unloading could begin only after the building representative approved the setup. Question: Which action was required before unloading?

- A. Opening every package
- B. Removing all labels
- C. Sending the crew home
- D. Inspecting the cart

76. Read this Exam 19 workplace passage: Kai noticed that the inspection light flickered when its cord moved near the plug. He unplugged the light, attached an out-of-service tag, and obtained another approved light. He reported the defect to the tool coordinator instead of attempting a temporary tape repair. Question: When did the light flicker?

- A. When the elevator stopped
- B. When the room became warm
- C. When the cord moved near the plug
- D. When the tag was removed

77. Read this Exam 19 workplace passage: Kai noticed that the inspection light flickered when its cord moved near the plug. He unplugged the light, attached an out-of-service tag, and obtained another approved light. He reported the defect to the tool coordinator instead of attempting a temporary tape repair. Question: What did Kai do first after noticing the defect?

- A. He taped the cord
- B. He unplugged the light
- C. He discarded every light
- D. He continued using it

78. Read this Exam 19 workplace passage: Kai noticed that the inspection light flickered when its cord moved near the plug. He unplugged the light, attached an out-of-service tag, and obtained another approved light. He reported the defect to the tool coordinator instead of attempting a temporary tape repair. Question: What was attached to the defective light?

- A. An out-of-service tag
- B. A shipping invoice
- C. A measurement scale
- D. A new plug cover

79. Read this Exam 19 workplace passage: Kai noticed that the inspection light flickered when its cord moved near the plug. He unplugged the light, attached an out-of-service tag, and obtained another approved light. He reported the defect to the tool coordinator instead of attempting a temporary tape repair. Question: Why did Kai obtain another light?

- A. To avoid reporting the defect
- B. To compare bulb colors
- C. To continue with approved equipment
- D. To make a temporary cord repair

80. Read this Exam 19 workplace passage: Kai noticed that the inspection light flickered when its cord moved near the plug. He unplugged the light, attached an out-of-service tag, and obtained another approved light. He reported the defect to the tool coordinator instead of attempting a temporary tape repair. Question: Who received the defect report?

- A. A passenger
- B. The delivery driver
- C. The building visitor

D. The tool coordinator

81. Read this Exam 19 workplace passage: At the pretask meeting, Rosa assigned one worker to control the barricade and another to move materials. The material mover was to stop whenever pedestrians approached. Rosa would communicate with both workers by radio and pause the operation if visibility became poor. Question: Who controlled the barricade?

- A. Every pedestrian
- B. The material supplier
- C. One assigned worker
- D. No one

82. Read this Exam 19 workplace passage: At the pretask meeting, Rosa assigned one worker to control the barricade and another to move materials. The material mover was to stop whenever pedestrians approached. Rosa would communicate with both workers by radio and pause the operation if visibility became poor. Question: When was material movement required to stop?

- A. When pedestrians approached
- B. When the radio worked
- C. When visibility improved
- D. When the barricade was staffed

83. Read this Exam 19 workplace passage: At the pretask meeting, Rosa assigned one worker to control the barricade and another to move materials. The material mover was to stop whenever pedestrians approached. Rosa would communicate with both workers by radio and pause the operation if visibility became poor. Question: How did Rosa plan to communicate?

- A. By written mail
- B. By radio
- C. By hand-delivered invoice
- D. By removing the barricade

84. Read this Exam 19 workplace passage: At the pretask meeting, Rosa assigned one worker to control the barricade and another to move materials. The material mover was to stop whenever pedestrians approached. Rosa would communicate with both workers by radio and pause the operation if visibility became poor. Question: What condition would cause Rosa to pause the operation?

- A. Clear visibility
- B. An empty walkway
- C. Working radios
- D. Poor visibility

85. Read this Exam 19 workplace passage: At the pretask meeting, Rosa assigned one worker to control the barricade and another to move materials. The material mover was to stop whenever pedestrians approached. Rosa would communicate with both workers by radio and pause the operation if visibility became poor. Question: What was the meeting mainly establishing?

- A. Payroll rates for the crew
- B. A permanent building schedule
- C. Roles and stop conditions for the task
- D. A tool purchasing budget

86. At the Exam 19 tool-identification station, which response is correct? Which tool is designed to tighten a hex-head fastener to a specified torque?

- A. Ball-peen hammer
- B. Cold chisel
- C. Wire brush
- D. Torque wrench

87. At the Exam 19 tool-identification station, which response is correct? Which tool is best suited for checking whether a surface is horizontal?

- A. Pipe wrench

- B. Spirit level
- C. Hacksaw
- D. Center punch

88. At the Exam 19 tool-identification station, which response is correct? What is the primary purpose of a center punch before drilling metal?

- A. Create an indentation that guides the drill
- B. Enlarge a finished threaded hole
- C. Measure the metal thickness
- D. Remove burrs from an edge

89. At the Exam 19 tool-identification station, which response is correct? Which hand tool is intended to grip and turn round pipe?

- A. Combination square
- B. Pipe wrench
- C. Needle file
- D. Tin snips

90. At the Exam 19 tool-identification station, which response is correct? Which tool measures an outside diameter with greater precision than a standard ruler?

- A. Claw hammer
- B. Adjustable wrench
- C. Outside micrometer
- D. Wood chisel

91. At the Exam 19 tool-identification station, which response is correct? What tool is commonly used to remove insulation from an electrical conductor without cutting the conductor?

- A. Wire stripper
- B. Masonry bit
- C. Pipe cutter
- D. Flat file

92. At the Exam 19 tool-identification station, which response is correct? Which screwdriver tip is cross-shaped?

- A. Slotted
- B. Torx
- C. Hex key
- D. Phillips

93. At the Exam 19 tool-identification station, which response is correct? What is a feeler gauge used to measure?

- A. Electrical current
- B. Pipe wall color
- C. Small gaps or clearances
- D. Fastener torque

94. At the Exam 19 tool-identification station, which response is correct? Which tool is used to cut external threads on a round rod?

- A. Tap
- B. Die
- C. Reamer
- D. Countersink

95. At the Exam 19 tool-identification station, which response is correct? Which tool is used to cut internal threads in a drilled hole?

- A. Tap
- B. Die
- C. Pry bar
- D. Vise grip

96. At the Exam 19 tool-identification station, which response is correct? What is the main use of a file card?

- A. Measuring file length
- B. Cutting electrical cable
- C. Holding a drill bit
- D. Cleaning metal filings from a file

97. At the Exam 19 tool-identification station, which response is correct? Which tool is best for making a straight cut through a small metal rod by hand?

- A. Hacksaw
- B. Rubber mallet
- C. Plumb bob
- D. Voltage tester

98. At the Exam 19 tool-identification station, which response is correct? What does a plumb bob establish?

- A. A specified bolt torque
- B. A circular hole diameter
- C. A true vertical reference
- D. A horizontal cutting line only

99. At the Exam 19 tool-identification station, which response is correct? Which tool holds a workpiece securely on a bench?

- A. Socket extension
- B. Feeler gauge
- C. Utility knife
- D. Bench vise

100. At the Exam 19 tool-identification station, which response is correct? Why is a properly sized socket preferred over an adjustable wrench for a high-torque hex fastener?

- A. It makes the fastener threads larger
- B. It engages more flats and reduces slipping
- C. It eliminates the need for inspection
- D. It changes clockwise motion to linear motion

Practice Exam 19: Answer Key and Explanations

1. D — Equal distribution requires dividing 228 by 15. The quotient is 15.2, and multiplying that result by 15 reconstructs the original 228 anchors. The other choices fail this reverse multiplication check or would require a different total quantity. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every condition in

2. C — Convert 40 percent to 0.4 and multiply by 420. The result is 168. Percent means parts per hundred, so the decimal multiplication applies the stated portion to the whole. Each distractor represents a different percentage or a basic multiplication error. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

3. A — The section count equals total length divided by section length. Dividing 132 by 11 gives 12. Multiplying 12 sections by 11 feet returns the full 132 feet, while the alternatives leave unused material or exceed the available length. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every condition

4. B — Order of operations requires multiplication before addition. Multiplying 8 by 9 gives 72, then adding 12 produces 84. The largest distractor adds first, another stops after multiplication, and the remaining option reflects an arithmetic error. Therefore 84 is correct. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every

5. C — Rectangle area equals length multiplied by width. Multiplying 12 feet by 9 feet gives 108 square feet. One distractor is the perimeter, while the others misstate the product. Because the question asks for

surface coverage, square feet—not linear feet—is the proper unit. Comparing the units, operation, and wording with each alternative confirms why the keyed choice

6. B — Each foot contains 12 inches, so 7.25 multiplied by 12 equals 87 inches. Converting the whole-foot and fractional-foot portions separately produces the same total. The alternatives omit or miscalculate part of the fraction and do not convert the entire length. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

7. A — Straight-time gross pay is hourly rate multiplied by hours. Multiplying \$32 by 12 gives \$384. No overtime or deduction information is supplied, so no adjustment is appropriate. The alternatives correspond to different hour totals and do not match the schedule described. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

8. D — Convert the fraction by dividing the numerator, 7, by the denominator, 8. The quotient is 0.875. Multiplying that decimal by 8 returns 7, confirming equivalence. The distractors are nearby values but fail the reverse multiplication check and therefore represent different fractions. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

9. C — Add the four observations to obtain 108, then divide by four. The arithmetic mean is 27. This value balances the distances below and above it. The alternatives either omit a value, divide by the wrong count, or contain an addition error. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

10. A — Remaining cable equals starting length minus used length. Subtracting 29 from 100 gives 71 meters. Adding 29 back to 71 returns the original 100 meters, verifying the result. Each alternative fails that inverse-operation check and conflicts with the stated quantities. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

11. D — Equal distribution requires dividing 252 by 16. The quotient is 15.75, and multiplying that result by 16 reconstructs the original 252 anchors. The other choices fail this reverse multiplication check or would require a different total quantity. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every condition in

12. B — Convert 45 percent to 0.45 and multiply by 460. The result is 207. Percent means parts per hundred, so the decimal multiplication applies the stated portion to the whole. Each distractor represents a different percentage or a basic multiplication error. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

13. B — The section count equals total length divided by section length. Dividing 144 by 12 gives 12. Multiplying 12 sections by 12 feet returns the full 144 feet, while the alternatives leave unused material or exceed the available length. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every condition

14. D — Order of operations requires multiplication before addition. Multiplying 9 by 10 gives 90, then adding 13 produces 103. The largest distractor adds first, another stops after multiplication, and the

remaining option reflects an arithmetic error. Therefore 103 is correct. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every

15. C — Rectangle area equals length multiplied by width. Multiplying 13 feet by 10 feet gives 130 square feet. One distractor is the perimeter, while the others misstate the product. Because the question asks for surface coverage, square feet—not linear feet—is the proper unit. Comparing the units, operation, and wording with each alternative confirms why the keyed choice

16. A — Each foot contains 12 inches, so 8.25 multiplied by 12 equals 99 inches. Converting the whole-foot and fractional-foot portions separately produces the same total. The alternatives omit or miscalculate part of the fraction and do not convert the entire length. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

17. B — Straight-time gross pay is hourly rate multiplied by hours. Multiplying \$34 by 13 gives \$442. No overtime or deduction information is supplied, so no adjustment is appropriate. The alternatives correspond to different hour totals and do not match the schedule described. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

18. A — Convert the fraction by dividing the numerator, 8, by the denominator, 8. The quotient is 1. Multiplying that decimal by 8 returns 8, confirming equivalence. The distractors are nearby values but fail the reverse multiplication check and therefore represent different fractions. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

19. D — Add the four observations to obtain 112, then divide by four. The arithmetic mean is 28. This value balances the distances below and above it. The alternatives either omit a value, divide by the wrong count, or contain an addition error. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

20. C — Remaining cable equals starting length minus used length. Subtracting 32 from 108 gives 76 meters. Adding 32 back to 76 returns the original 108 meters, verifying the result. Each alternative fails that inverse-operation check and conflicts with the stated quantities. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

21. A — Equal distribution requires dividing 276 by 17. The quotient is 16.2353, and multiplying that result by 17 reconstructs the original 276 anchors. The other choices fail this reverse multiplication check or would require a different total quantity. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every condition in

22. D — Convert 50 percent to 0.5 and multiply by 500. The result is 250. Percent means parts per hundred, so the decimal multiplication applies the stated portion to the whole. Each distractor represents a different percentage or a basic multiplication error. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

23. C — The section count equals total length divided by section length. Dividing 156 by 13 gives 12. Multiplying 12 sections by 13 feet returns the full 156 feet, while the alternatives leave unused material

or exceed the available length. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every condition

24. B — Order of operations requires multiplication before addition. Multiplying 10 by 11 gives 110, then adding 14 produces 124. The largest distractor adds first, another stops after multiplication, and the remaining option reflects an arithmetic error. Therefore 124 is correct. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies every

25. B — Rectangle area equals length multiplied by width. Multiplying 14 feet by 11 feet gives 154 square feet. One distractor is the perimeter, while the others misstate the product. Because the question asks for surface coverage, square feet—not linear feet—is the proper unit. Comparing the units, operation, and wording with each alternative confirms why the keyed choice

26. A — Each foot contains 12 inches, so 9.25 multiplied by 12 equals 111 inches. Converting the whole-foot and fractional-foot portions separately produces the same total. The alternatives omit or miscalculate part of the fraction and do not convert the entire length. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

27. D — Straight-time gross pay is hourly rate multiplied by hours. Multiplying \$36 by 14 gives \$504. No overtime or deduction information is supplied, so no adjustment is appropriate. The alternatives correspond to different hour totals and do not match the schedule described. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

28. C — Convert the fraction by dividing the numerator, 9, by the denominator, 8. The quotient is 1.125. Multiplying that decimal by 8 returns 9, confirming equivalence. The distractors are nearby values but fail the reverse multiplication check and therefore represent different fractions. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

29. C — Add the four observations to obtain 116, then divide by four. The arithmetic mean is 29. This value balances the distances below and above it. The alternatives either omit a value, divide by the wrong count, or contain an addition error. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone

30. A — Remaining cable equals starting length minus used length. Subtracting 35 from 116 gives 81 meters. Adding 35 back to 81 returns the original 116 meters, verifying the result. Each alternative fails that inverse-operation check and conflicts with the stated quantities. Comparing the units, operation, and wording with each alternative confirms why the keyed choice alone satisfies

31. B — In this demonstration, meshed external gears rotate in opposite directions because the contacting teeth push tangentially on one another. A clockwise driving gear therefore forces the driven gear counterclockwise. Equal direction would require an intermediate arrangement or different drive type, and a properly engaged driven gear neither remains still nor moves unpredictably. Reviewing the given information

32. D — In this demonstration, torque equals applied force multiplied by perpendicular distance from the pivot. A longer wrench increases that lever arm, producing more turning effect with the same hand

force. It does not alter the bolt's diameter or thread pitch, and the useful change is mechanical advantage rather than tool weight at the fastener.

33. B — In this demonstration, an ideal single fixed pulley changes the direction of the pull, allowing a worker to pull downward while the load rises. It does not provide a force advantage by itself, reduce the load's actual weight, or store energy. Mechanical advantage greater than one requires movable pulleys or multiple supporting rope segments.

34. A — In this demonstration, lubricant forms a film that reduces direct contact between surface irregularities, lowering sliding friction and wear. Increasing normal force usually increases friction, while roughening or pressing the surfaces together promotes stronger contact. The lubricant must be suitable for the load, material, temperature, and operating environment. Reviewing the given information and eliminating choices that

35. D — In this demonstration, a small driving gear must rotate several times to move a larger driven gear through one revolution. The driven gear therefore turns more slowly while gaining torque, apart from losses. Faster rotation with reduced torque occurs when a larger gear drives a smaller one. Equal speed requires equal pitch diameters.

36. C — In this demonstration, a wider base enlarges the support area and makes it harder for the combined center of gravity to move outside the footprint, improving stability. It does not change the load's mass, necessarily reduce height, or eliminate ground pressure. Proper ground condition and centered loading remain important despite the wider base.

37. A — In this demonstration, pascal's principle states that pressure applied to a confined fluid is transmitted undiminished throughout the fluid and to container walls. This allows different piston areas to trade motion for force. Pressure is not restricted to downward travel, the smallest piston, or the inlet path, although actual systems experience losses. Reviewing the given information

38. D — In this demonstration, an inclined plane trades distance for force. Lengthening the ramp while keeping the same rise reduces its slope, so less ideal input force is required, although the load travels farther. The load's weight does not change, and the travel distance increases rather than decreases. Friction may reduce the practical advantage.

39. B — In this demonstration, torque depends on force and distance from the pivot. Moving the effort farther from the fulcrum increases its moment arm, so less effort force can balance the same load torque. The load's weight is unchanged, and the fulcrum continues to provide a reaction force. This is the lever's mechanical advantage.

40. C — In this demonstration, pressure equals force divided by contact area. A sharp edge presents a smaller area, producing greater pressure from the same applied force and allowing material to separate more easily. It does not change material mass or eliminate friction. A dull edge spreads force over a larger area and therefore needs more force.

41. D — In this demonstration, a crossed belt reverses the direction transmitted between pulleys, so the driven pulley rotates opposite the driver. An open belt normally produces the same direction. Pulley size

affects speed ratio, not whether only one pulley moves. Provided tension and clearance are adequate, both pulleys rotate normally. Reviewing the given information and eliminating choices

42. B — In this demonstration, most metals undergo thermal expansion when temperature rises because average atomic spacing increases. A free rod therefore lengthens slightly. Cooling generally produces contraction. Heating within a normal operating range does not eliminate all stiffness, and dimensional change must be considered where clearances or constrained assemblies are important. Reviewing the given information and eliminating

43. C — In this demonstration, a suspended object settles with its center of gravity below the support point because that position minimizes potential energy and produces stable equilibrium. Placing the center above the support is unstable, while large offsets create rotation. Attaching at a light edge commonly leaves the center of gravity displaced and encourages tipping.

44. A — In this demonstration, for steady incompressible flow, continuity requires approximately the same volume rate through each cross-section. When area decreases, average velocity increases to carry the same flow. The fluid does not stop or reverse merely because of the restriction. Real systems also experience pressure loss and turbulence, but the velocity trend remains.

45. D — In this demonstration, within the elastic range, Hooke's law states that spring force is proportional to displacement. Greater compression therefore produces greater restoring force opposing that compression. The force is not zero or constant, and permanent reversal would indicate damage or behavior beyond the elastic range rather than ordinary spring operation. Reviewing the given information and

46. B — In this demonstration, ball bearings replace much sliding contact with rolling contact, greatly reducing rotational friction while supporting radial or axial loads according to design. They do not increase sliding area, guarantee elimination of vibration, or lock the shaft. Correct fit, lubrication, alignment, and load rating are still necessary for reliable operation. Reviewing the given information

47. C — In this demonstration, forces are vectors, so equal forces acting along the same line in opposite directions cancel. Their vector sum, or net force, is zero. That condition means no acceleration from those forces, though the object may remain at rest or continue at constant velocity. Weight is separate unless included in the balance.

48. D — In this demonstration, a screw's helical thread converts relative rotation between screw and nut into controlled linear movement and axial force. Fine pitch trades more turns for greater mechanical advantage and precision. Although friction creates some heat, heat is not the primary output. The nut or screw can translate depending on which component is constrained.

49. A — In this demonstration, a triangle is geometrically stable because its angles cannot change without changing member lengths. Rectangular frames can rack unless braced. Triangles therefore resist deformation and distribute loads through members, though they do not always minimize material, eliminate joints, or prevent forces from acting at connections. Connection quality remains essential. Reviewing the given information

50. C — In this demonstration, in an ideal pulley system, the load is shared among supporting rope segments. More supporting segments increase mechanical advantage and reduce required input force. The tradeoff is pulling a greater rope distance. The load's true weight remains unchanged, and every taut supporting segment carries tension rather than having tension eliminated.

51. A — In this demonstration, corrosion consumes material and can create pits, reducing the effective cross-sectional area and introducing stress concentrations. Both effects may weaken a steel component. Corrosion does not reliably increase dimensions, improve electrical continuity, or smooth the surface. Inspection considers location, depth, remaining thickness, environment, and the component's loading. Reviewing the given information and eliminating

52. B — In this demonstration, torque equals force multiplied by perpendicular distance from the fulcrum. Moving the same load closer reduces its moment arm and therefore decreases load torque. The load force itself is unchanged, and torque remains distance-dependent. Direction changes only if the force moves to the opposite side or its direction changes. Reviewing the given information

53. B — In this demonstration, tipping begins when the center of gravity's vertical line passes outside the support base. Lowering the center requires a larger tilt angle before that occurs, improving stability. It does not increase total weight, remove lateral forces, or narrow the base. Load placement and surface conditions still affect actual stability. Reviewing the given information

54. C — In this demonstration, elasticity is the ability to deform under load and recover the original shape when the load is removed, provided the elastic limit is not exceeded. Brittleness describes fracture with little deformation, corrosion is chemical deterioration, and permanent deformation remains after unloading. Spring action depends on controlled elastic behavior. Reviewing the given information and

55. A — In this demonstration, ohm's law gives current as voltage divided by resistance. With voltage fixed, increasing resistance reduces current. The current does not increase or remain unchanged, and the source voltage does not automatically become zero. Actual circuit behavior also depends on component ratings and whether resistance changes with temperature. Reviewing the given information and eliminating

56. D — In this demonstration, a counterweight balances the car plus a designed portion of its rated load, reducing the motor torque and energy needed during travel. It does not stop rope movement, alter gravity, or eliminate braking requirements. Correct counterweighting improves efficiency while the drive, brakes, ropes, and safeties perform distinct functions. Reviewing the given information and

57. D — In this demonstration, the chain moves both sprockets through the same number of teeth per unit time. A larger driven sprocket has more teeth, so it completes fewer revolutions while providing increased torque, aside from losses. A smaller driven sprocket would produce higher speed. Equal sizes are needed for a one-to-one ratio. Reviewing the given information

58. A — In this demonstration, centering keeps the load path aligned with the jack's intended axis, reducing side forces, slipping risk, and instability. Off-center loading can damage the saddle or jack and

cause sudden movement. Centering does not change actual weight, eliminate hydraulic pressure, or alter the base dimensions. Rated capacity must still be observed.

59. B — In this demonstration, parallel springs share the applied load while undergoing approximately the same displacement. Their stiffness values add, making the combination stiffer than either identical spring alone. Series springs behave differently and reduce combined stiffness. The result is not zero and remains directly determined by the individual spring constants and arrangement. Reviewing the given information

60. C — In this demonstration, an idler gear transmits motion between the driver and driven gear and changes the final direction relationship, but its tooth count does not alter the basic ratio set by the first and last gears. It does not automatically double speed or prevent torque transfer. With one idler, the end gears rotate in the

61. C — The passage directly identifies the sixth floor as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

62. A — The passage directly identifies the lobby as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with each

63. B — The passage directly identifies she recorded it as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

64. D — The passage directly identifies a mechanic needed to evaluate the condition as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

65. A — The passage directly identifies nina inspected assigned doors and documented one abnormal condition as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

66. B — The passage directly identifies two as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with each alternative

67. C — The passage directly identifies four as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person,

condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with each alternative

68. D — The passage directly identifies the bolt count was short as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

69. B — The passage directly identifies in the hold area as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

70. D — The passage directly identifies to report and resolve the shortage as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

71. A — The passage directly identifies in the loading area as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

72. C — The passage directly identifies 7:15 a.m. as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with each

73. A — The passage directly identifies the building representative had to approve the setup as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

74. B — The passage directly identifies to protect the finished surface as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

75. D — The passage directly identifies inspecting the cart as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

76. C — The passage directly identifies when the cord moved near the plug as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a

quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

77. B — The passage directly identifies he unplugged the light as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

78. A — The passage directly identifies an out-of-service tag as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

79. C — The passage directly identifies to continue with approved equipment as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

80. D — The passage directly identifies the tool coordinator as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

81. C — The passage directly identifies one assigned worker as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

82. A — The passage directly identifies when pedestrians approached as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with

83. B — The passage directly identifies by radio as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with each

84. D — The passage directly identifies poor visibility as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response. Comparing the units, operation, and wording with each

85. C — The passage directly identifies roles and stop conditions for the task as the answer. Its sequence and stated purpose support that choice without requiring outside assumptions. Each alternative changes a

quantity, location, person, condition, or action from the text. Reading the complete passage and matching exact details therefore leads to the keyed response.

86. D — At the identification station, a torque wrench applies and indicates a controlled turning moment so a fastener can be tightened to a specified value. A hammer delivers impact, a cold chisel cuts or shapes metal, and a wire brush cleans surfaces. Correct socket size, calibration status, units, and the specified procedure must also be checked.

87. B — At the identification station, a spirit level uses a vial and bubble to indicate whether a surface is level or plumb, depending on orientation. A pipe wrench grips pipe, a hacksaw cuts material, and a center punch marks a starting point for drilling. The level should contact a clean, representative surface and be checked for damage.

88. A — At the identification station, a center punch makes a small indentation at the intended hole center. That recess helps keep the drill point from wandering when drilling begins. It does not enlarge threads, measure thickness, or remove burrs. Eye protection and secure workholding remain important because the punch is normally struck with a hammer.

89. B — At the identification station, a pipe wrench has serrated jaws and an adjustable design that bites round pipe when force is applied in the intended direction. A combination square measures and marks, a needle file shapes small features, and tin snips cut sheet metal. The wrench is not appropriate for finished hex fasteners because it can

90. C — At the identification station, an outside micrometer uses a calibrated screw, anvil, and spindle to measure external dimensions precisely. A ruler provides coarser readings, while hammers, adjustable wrenches, and wood chisels serve unrelated striking, turning, or cutting functions. Measuring faces should be clean, pressure controlled with the ratchet, and the reading verified against the required tolerance.

91. A — At the identification station, a wire stripper has sized openings or an adjustable mechanism that cuts and removes insulation while minimizing damage to the metal conductor. A masonry bit drills brittle construction material, a pipe cutter severs tubing, and a flat file removes material from surfaces. The stripper size must match the conductor gauge and insulation

92. D — At the identification station, a Phillips screwdriver has a cross-shaped tip designed for a matching recessed screw head. A slotted driver has one flat blade, Torx uses a six-lobed star profile, and a hex key fits an internal hexagon. Correct size and full engagement reduce cam-out, fastener damage, and hand injury during use. Reviewing the given

93. C — At the identification station, a feeler gauge consists of accurately sized thin blades used individually or in combination to check small gaps and clearances. It does not measure electrical current, surface color, or torque. Blades should be clean, inserted without forcing, and returned to their holder to protect their thickness and edges. Reviewing the given information

94. B — At the identification station, a die cuts or repairs external threads on a rod or bolt. A tap forms internal threads in a drilled hole, a reamer accurately finishes a hole's diameter, and a countersink

creates a conical recess. Correct size, alignment, cutting lubricant, and periodic chip breaking help produce usable threads without damaging the tool.

95. A — At the identification station, a tap cuts internal threads in a correctly sized drilled hole. A die cuts external threads, a pry bar provides leverage, and locking pliers grip objects. Starting the tap square, using suitable lubricant, and reversing periodically to break chips help prevent crooked threads and tool breakage. The proper tap-drill size is essential.

96. D — At the identification station, a file card is a stiff-bristled cleaning tool used to remove packed metal chips from a file's teeth. It does not measure the file, cut cable, or hold drill bits. Cleaning restores cutting action and reduces scratching caused by embedded particles. The file should be secured and hands kept clear of sharp

97. A — At the identification station, a hacksaw uses a fine-toothed replaceable blade held under tension to cut metal stock such as a small rod. A rubber mallet strikes without severe marring, a plumb bob establishes vertical alignment, and a voltage tester checks electrical conditions. The work should be clamped and the correct blade pitch selected.

98. C — At the identification station, a plumb bob suspends a pointed weight from a line, allowing gravity to establish a true vertical reference. It does not set torque, measure hole diameter, or directly create a horizontal line. Air movement must be minimized and the weight allowed to settle before transferring or comparing the reference position.

99. D — At the identification station, a bench vise uses fixed and movable jaws to clamp a workpiece securely for cutting, filing, assembly, or other operations. A socket extension changes reach, a feeler gauge measures gaps, and a utility knife cuts suitable materials. Jaw protection and moderate clamping force help prevent damage to the workpiece or vise.

100. B — At the identification station, a correctly sized socket surrounds and engages multiple flats of a hex fastener, distributing force and reducing slipping or corner rounding during high-torque work. An adjustable wrench has fewer contact points and can loosen at its jaw. The socket does not alter threads, remove inspection needs, or convert the motion type.