

PRACTICE EXAM 9: 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 mechanic has 168 bolts packed equally into 12 bins. How many bolts are in each bin?

- A. 14
- B. 12
- C. 16
- D. 18

2. What is 35% of 240?

- A. 72
- B. 80
- C. 96
- D. 84

3. A 96-foot cable is cut into pieces 8 feet long. How many complete pieces result?

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

4. Evaluate $7 + 3 \times 6$.

- A. 60
- B. 42
- C. 25
- D. 27

5. A rectangular platform is 9 feet long and 6 feet wide. What is its area?

- A. 30
- B. 54
- C. 45
- D. 60

6. Convert 4.5 feet to inches.

- A. 48
- B. 50
- C. 54
- D. 56

7. A worker earns \$28 per hour for 7 hours. What is the gross pay?

- A. \$182
- B. \$204
- C. \$224
- D. \$196

8. What is $\frac{5}{8}$ expressed as a decimal?

- A. 0.625
- B. 0.58
- C. 0.65
- D. 0.8

9. A 15-foot ladder is divided into three equal marked sections. How long is each section?

- A. 3 feet
- B. 4 feet
- C. 5 feet
- D. 6 feet

10. Subtract 18.75 from 64.20.

- A. 44.45
- B. 45.55
- C. 46.45
- D. 45.45

11. A gear turns 18 revolutions per minute. How many revolutions does it make in 5 minutes?

- A. 90
- B. 72
- C. 80
- D. 108

12. What is the average of 12, 18, 24, and 30?

- A. 18
- B. 21
- C. 20

D. 22

13. A 72-inch rail must be shortened by 15 inches. What is the new length?

- A. 55 inches
- B. 57 inches
- C. 58 inches
- D. 63 inches

14. Which value equals $\frac{3}{4}$ of 64?

- A. 42
- B. 46
- C. 48
- D. 52

15. A box contains 9 rows of 14 washers. How many washers are in the box?

- A. 116
- B. 124
- C. 136
- D. 126

16. A \$160 tool set is discounted by 15%. What is the sale price?

- A. \$136
- B. \$124
- C. \$140
- D. \$145

17. Convert 2 hours 35 minutes to total minutes.

- A. 135
- B. 145
- C. 155
- D. 165

18. A machine uses 3.2 gallons of fluid per hour. How much does it use in 6 hours?

- A. 19.2 gallons
- B. 16.2 gallons
- C. 18.2 gallons
- D. 20.2 gallons

19. What is the perimeter of a rectangle measuring 11 feet by 7 feet?

- A. 18 feet
- B. 36 feet
- C. 32 feet
- D. 77 feet

20. A crew completed 42 of 60 scheduled inspections. What percentage was completed?

- A. 65%
- B. 72%
- C. 75%
- D. 70%

21. Evaluate $144 \div 12 + 8$.

- A. 12
- B. 18
- C. 20
- D. 24

22. A 25-foot cable costs \$2.40 per foot. What is the total cost?

- A. \$60
- B. \$50
- C. \$58
- D. \$62

23. What is 0.375 written as a percentage?

- A. 3.75%
- B. 35.7%
- C. 375%
- D. 37.5%

24. A tank holds 320 gallons and is $\frac{3}{8}$ full. How many gallons are in it?

- A. 100 gallons
- B. 120 gallons
- C. 128 gallons
- D. 140 gallons

25. Find the missing value: $18 + x = 47$.

- A. 29
- B. 27
- C. 28

D. 31

26. A worker walks 1.25 miles each way to a site for 4 days. What total distance is walked?

- A. 5 miles
- B. 8 miles
- C. 10 miles
- D. 12 miles

27. Round 86.746 to the nearest tenth.

- A. 86.6
- B. 86.75
- C. 86.8
- D. 86.7

28. A ratio of red to blue tags is 3:5. If there are 24 red tags, how many blue tags are there?

- A. 32
- B. 40
- C. 36
- D. 48

29. A 10-foot pipe loses 7.5 inches when trimmed. What length remains in inches?

- A. 110.5 inches
- B. 114.5 inches
- C. 112.5 inches
- D. 117.5 inches

30. If 6 identical brackets weigh 21 pounds, what does one bracket weigh?

- A. 3 pounds
- B. 4 pounds
- C. 4.5 pounds
- D. 3.5 pounds

31. 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. Using a longer wrench on the same bolt primarily increases what?

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

33. 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. Which condition generally lowers sliding friction between two metal surfaces?

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

35. 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. Why is a wide base used on a lifting device?

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

37. 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. 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. A beam is balanced on a fulcrum. Moving the effort farther from the fulcrum has what effect?

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

40. Why does a sharp cutting edge require less force than a dull edge?

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

41. 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. Heating a typical metal rod generally causes it to do what?

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

43. Which arrangement gives the greatest stability to a suspended load?

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

44. When fluid flows through a narrower section of the same pipe, its speed generally does what?

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

45. 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. What is the main advantage of ball bearings between a shaft and housing?

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

47. If equal forces act in opposite directions on an object, what is the net force?

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

48. A screw converts rotational motion primarily into what?

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

49. 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. Increasing the number of rope segments supporting an ideal movable pulley load does what?

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

51. What effect does corrosion commonly have on a steel component?

- A. It increases precise dimensions

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

52. When a load is moved closer to a lever's fulcrum, what happens to the load torque?

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

53. 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. Which material behavior allows a wire to stretch and return to its original length?

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

55. What happens to electrical current in a simple circuit if resistance increases while voltage stays constant?

- A. Current increases
- B. Current remains unchanged
- C. Current decreases

D. Voltage becomes zero

56. 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. A larger driven sprocket connected by chain to a smaller driver will usually have what output?

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

58. Why must a load be centered on a jack saddle?

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

59. When two identical springs are arranged in parallel, their combined stiffness is generally what?

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

60. 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 makes both end gears rotate opposite each other
- D. It changes direction relationship without changing the basic ratio

61. Read the passage: Before starting the inspection, Lena isolated the controller, applied her personal lock, and verified absence of voltage with a properly rated meter. She then found a loose terminal, documented its location, and waited for authorization before tightening it. Question: What did Lena do immediately after applying her personal lock?

- A. Tightened the terminal
- B. Verified absence of voltage
- C. Removed the controller
- D. Requested a new meter

62. Read the passage: Before starting the inspection, Lena isolated the controller, applied her personal lock, and verified absence of voltage with a properly rated meter. She then found a loose terminal, documented its location, and waited for authorization before tightening it. Question: Why did Lena wait before tightening the terminal?

- A. She needed authorization
- B. The meter had failed
- C. The terminal was already tight
- D. The inspection was canceled

63. Read the passage: Before starting the inspection, Lena isolated the controller, applied her personal lock, and verified absence of voltage with a properly rated meter. She then found a loose terminal, documented its location, and waited for authorization before tightening it. Question: Which statement best summarizes the passage?

- A. Lena repaired energized equipment quickly
- B. Lena replaced the entire controller
- C. Lena skipped documentation to save time
- D. Lena followed controlled electrical inspection steps

64. Read the passage: Before starting the inspection, Lena isolated the controller, applied her personal lock, and verified absence of voltage with a properly rated meter. She then found a loose terminal, documented its location, and waited for authorization before tightening it. Question: What condition did Lena discover?

- A. A broken hoist rope
- B. A leaking cylinder
- C. A loose terminal
- D. A damaged door panel

65. Read the passage: Before starting the inspection, Lena isolated the controller, applied her personal lock, and verified absence of voltage with a properly rated meter. She then found a loose terminal, documented its location, and waited for authorization before tightening it. Question: The word “isolated” most nearly means what in this passage?

- A. Separated from its energy source
- B. Measured for exact size
- C. Covered with insulation only
- D. Moved closer to the controller

66. Read the passage: A delivery included twelve guide-rail brackets, but the packing list showed fourteen. Omar counted the shipment twice, photographed the unopened container, and notified the supervisor. The supervisor instructed him to mark the delivery incomplete and keep the materials separated until purchasing resolved the shortage. Question: How many brackets were missing?

- A. One bracket
- B. Twelve brackets
- C. Fourteen brackets

D. Two brackets

67. Read the passage: A delivery included twelve guide-rail brackets, but the packing list showed fourteen. Omar counted the shipment twice, photographed the unopened container, and notified the supervisor. The supervisor instructed him to mark the delivery incomplete and keep the materials separated until purchasing resolved the shortage. Question: Why did Omar photograph the container?

- A. To identify how brackets are installed
- B. To preserve evidence of the received condition
- C. To advertise the delivery company
- D. To replace the packing list

68. Read the passage: A delivery included twelve guide-rail brackets, but the packing list showed fourteen. Omar counted the shipment twice, photographed the unopened container, and notified the supervisor. The supervisor instructed him to mark the delivery incomplete and keep the materials separated until purchasing resolved the shortage. Question: What was Omar told to do with the materials?

- A. Install them before counting again
- B. Return every item immediately
- C. Keep them separated pending resolution
- D. Mix them with existing stock

69. Read the passage: A delivery included twelve guide-rail brackets, but the packing list showed fourteen. Omar counted the shipment twice, photographed the unopened container, and notified the supervisor. The supervisor instructed him to mark the delivery incomplete and keep the materials separated until purchasing resolved the shortage. Question: Which action occurred first?

- A. Purchasing resolved the shortage
- B. The supervisor approved installation
- C. Omar compared the delivery with the packing list
- D. The brackets were mixed with stock

70. Read the passage: A delivery included twelve guide-rail brackets, but the packing list showed fourteen. Omar counted the shipment twice, photographed the unopened container, and notified the supervisor. The supervisor instructed him to mark the delivery incomplete and keep the materials separated until purchasing resolved the shortage. Question: What is the central problem in the passage?

- A. The brackets were the wrong color
- B. The supervisor could not be reached
- C. The container had been opened
- D. The shipment quantity did not match the record

71. Read the passage: The maintenance notice stated that the west elevator would be unavailable from 9:00 a.m. until noon. During that period, technicians would test door operation on every landing. Building staff were asked to direct passengers to the east elevator and keep carts away from the west lobby. Question: How long was the west elevator scheduled to be unavailable?

- A. Two hours
- B. Three hours
- C. Four hours
- D. All day

72. Read the passage: The maintenance notice stated that the west elevator would be unavailable from 9:00 a.m. until noon. During that period, technicians would test door operation on every landing. Building staff were asked to direct passengers to the east elevator and keep carts away from the west lobby. Question: What were technicians scheduled to test?

- A. Door operation on every landing
- B. Lighting in the east lobby
- C. Cart wheel condition
- D. Passenger identification

73. Read the passage: The maintenance notice stated that the west elevator would be unavailable from 9:00 a.m. until noon. During that period, technicians would test door operation on every landing.

Building staff were asked to direct passengers to the east elevator and keep carts away from the west lobby. Question: Where should passengers be directed?

- A. To the west lobby
- B. To the east elevator
- C. To the loading dock
- D. To the stair roof

74. Read the passage: The maintenance notice stated that the west elevator would be unavailable from 9:00 a.m. until noon. During that period, technicians would test door operation on every landing. Building staff were asked to direct passengers to the east elevator and keep carts away from the west lobby. Question: Why were carts to be kept away from the west lobby?

- A. To measure cart capacity
- B. To speed the east elevator
- C. To test every cart wheel
- D. To keep the work area clear

75. Read the passage: The maintenance notice stated that the west elevator would be unavailable from 9:00 a.m. until noon. During that period, technicians would test door operation on every landing. Building staff were asked to direct passengers to the east elevator and keep carts away from the west lobby. Question: Which title best fits the notice?

- A. Temporary West Elevator Service Interruption
- B. Permanent Building Closure
- C. New Cart Purchasing Policy
- D. East Elevator Removal Plan

76. Read the passage: During a morning check, Priya heard an unusual scraping sound only when the car traveled upward past the fourth floor. She stopped normal service, recorded the direction and location of the sound, and contacted the mechanic. She did not restart the elevator after the sound disappeared. Question: When was the scraping sound heard?

- A. While stopped at the first floor
- B. While traveling downward past every floor
- C. While traveling upward past the fourth floor
- D. Only when the doors were fully open

77. Read the passage: During a morning check, Priya heard an unusual scraping sound only when the car traveled upward past the fourth floor. She stopped normal service, recorded the direction and location of the sound, and contacted the mechanic. She did not restart the elevator after the sound disappeared. Question: What detail did Priya record?

- A. The passengers' home addresses
- B. The sound's direction and location
- C. The building's purchase price
- D. The mechanic's arrival time only

78. Read the passage: During a morning check, Priya heard an unusual scraping sound only when the car traveled upward past the fourth floor. She stopped normal service, recorded the direction and location of the sound, and contacted the mechanic. She did not restart the elevator after the sound disappeared. Question: Why did Priya avoid restarting the elevator?

- A. The morning check had been canceled
- B. The mechanic ordered immediate passenger service
- C. The disappearing sound did not prove the condition was safe
- D. The sound confirmed normal operation

79. Read the passage: During a morning check, Priya heard an unusual scraping sound only when the car traveled upward past the fourth floor. She stopped normal service, recorded the direction and location of the sound, and contacted the mechanic. She did not restart the elevator after the sound disappeared. Question: What was Priya's first response after identifying the unusual condition?

- A. She stopped normal service
- B. She replaced the guide rails
- C. She restarted the elevator

D. She opened every landing door

80. Read the passage: During a morning check, Priya heard an unusual scraping sound only when the car traveled upward past the fourth floor. She stopped normal service, recorded the direction and location of the sound, and contacted the mechanic. She did not restart the elevator after the sound disappeared. Question: What can reasonably be inferred?

- A. Priya knew the exact failed component
- B. Priya concluded no repair was needed
- C. Priya heard the sound during downward travel
- D. Priya treated an intermittent symptom as potentially important

81. Read the passage: The foreperson assigned Mateo to organize the tool cabinet. Frequently used hand tools were placed on the middle shelves, heavy cases went on the bottom, and precision instruments remained in padded boxes. Each shelf label listed the tool name and inspection date so missing or overdue equipment could be noticed quickly. Question: Where were heavy cases placed?

- A. On the middle shelves
- B. Above the cabinet
- C. On the bottom shelves
- D. Inside padded instrument boxes

82. Read the passage: The foreperson assigned Mateo to organize the tool cabinet. Frequently used hand tools were placed on the middle shelves, heavy cases went on the bottom, and precision instruments remained in padded boxes. Each shelf label listed the tool name and inspection date so missing or overdue equipment could be noticed quickly. Question: Why were precision instruments kept in padded boxes?

- A. To make them heavier
- B. To hide their inspection dates
- C. To replace the shelf labels
- D. To protect them from damage

83. Read the passage: The foreperson assigned Mateo to organize the tool cabinet. Frequently used hand tools were placed on the middle shelves, heavy cases went on the bottom, and precision instruments remained in padded boxes. Each shelf label listed the tool name and inspection date so missing or overdue equipment could be noticed quickly. Question: What information appeared on each shelf label?

- A. Tool name and inspection date
- B. Tool price and manufacturer
- C. Worker name and home address
- D. Cabinet weight and color

84. Read the passage: The foreperson assigned Mateo to organize the tool cabinet. Frequently used hand tools were placed on the middle shelves, heavy cases went on the bottom, and precision instruments remained in padded boxes. Each shelf label listed the tool name and inspection date so missing or overdue equipment could be noticed quickly. Question: What was the purpose of the organization system?

- A. To prevent workers from using hand tools
- B. To make missing or overdue equipment easy to notice
- C. To store heavy cases at shoulder height
- D. To eliminate future inspections

85. Read the passage: The foreperson assigned Mateo to organize the tool cabinet. Frequently used hand tools were placed on the middle shelves, heavy cases went on the bottom, and precision instruments remained in padded boxes. Each shelf label listed the tool name and inspection date so missing or overdue equipment could be noticed quickly. Question: Which tools were placed for easiest routine access?

- A. Heavy cases
- B. Unused shipping crates
- C. Frequently used hand tools
- D. Precision instruments without boxes

86. Which tool is designed to tighten a hex-head fastener to a specified torque?

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

87. Which tool is best suited for checking whether a surface is horizontal?

- A. Pipe wrench
- B. Spirit level
- C. Hacksaw
- D. Center punch

88. What is the primary purpose of a center punch before drilling metal?

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

89. Which hand tool is intended to grip and turn round pipe?

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

90. Which tool measures an outside diameter with greater precision than a standard ruler?

- A. Claw hammer

- B. Adjustable wrench
- C. Wood chisel
- D. Outside micrometer

91. What tool is commonly used to remove insulation from an electrical conductor without cutting the conductor?

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

92. Which screwdriver tip is cross-shaped?

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

93. What is a feeler gauge used to measure?

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

94. Which tool is used to cut external threads on a round rod?

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

D. Countersink

95. Which tool is used to cut internal threads in a drilled hole?

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

96. 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. Which tool is best for making a straight cut through a small metal rod by hand?

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

98. 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. Which tool holds a workpiece securely on a bench?

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

100. 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 eliminates the need for inspection
- C. It changes clockwise motion to linear motion
- D. It engages more flats and reduces slipping

Practice Exam 9: Answer Key and Explanations

1. A — Dividing 168 bolts by 12 equal bins gives 14 bolts per bin. Multiplication confirms the result because 14 times 12 equals 168. The other choices would account for 144, 192, or 216 bolts, so they do not preserve the stated total. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

2. D — Convert 35 percent to 0.35 and multiply by 240. The product is 84. A quick check separates the calculation into 30 percent, or 72, plus 5 percent, or 12; together they total 84, while the distractors reflect incomplete or excessive percentages. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

3. B — The number of equal pieces is total length divided by the length of each piece: 96 divided by 8 equals 12. Multiplying 12 pieces by 8 feet reconstructs the full 96 feet. Each alternative either leaves unexplained cable or requires more cable than supplied. Reviewing the given information and eliminating choices that conflict with the stated

4. C — Multiplication is completed before addition. Three times six equals 18, and adding seven gives 25. The choice 60 results from adding first, while 42 omits the final addition and 27 reflects a smaller multiplication error. Standard order of operations therefore identifies 25. Reviewing the given information and eliminating choices that conflict with the stated relationship leads

5. B — Area of a rectangle equals length multiplied by width. Nine feet times six feet equals 54 square feet. Thirty represents the perimeter, 45 uses one dimension incorrectly, and 60 overstates the product. Because area measures surface coverage, the correct unit is square feet. Reviewing the given information and eliminating choices that conflict with the stated relationship

6. C — Each foot contains 12 inches, so 4.5 feet multiplied by 12 equals 54 inches. Four feet contributes 48 inches and the remaining half foot contributes six inches. The distractors omit or miscalculate that half-foot portion, making 54 the complete conversion. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to

7. D — Gross pay before deductions equals hourly rate multiplied by hours worked. Twenty-eight dollars times seven hours is 196 dollars. The other totals come from using an incorrect number of hours or a multiplication error. No overtime or deductions are stated, so no further adjustment applies. Reviewing the given information and eliminating choices that conflict with the

8. A — A fraction becomes a decimal by dividing its numerator by its denominator. Five divided by eight equals 0.625. The value 0.58 simply joins the digits, 0.65 is an inaccurate quotient, and 0.8 reverses the relationship. The exact decimal equivalent is therefore 0.625. Reviewing the given information and eliminating choices that conflict with the stated relationship leads

9. C — Equal sections require division of the total length by the number of sections. Fifteen feet divided by three equals five feet. Three or four feet would leave unassigned length, while six feet per section would require 18 feet. Five feet is the only value that reconstructs the original ladder. Reviewing the given information and eliminating choices

10. D — Aligning decimal places and subtracting 18.75 from 64.20 produces 45.45. Adding 18.75 back to 45.45 returns 64.20, which verifies the result. The alternatives arise from borrowing or place-value errors and fail that reverse-operation check. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to the keyed response.

11. A — At a constant rate, total revolutions equal revolutions per minute multiplied by elapsed minutes. Eighteen times five equals 90 revolutions. Seventy-two represents only four minutes, while 108 represents six minutes. The stated five-minute interval therefore produces exactly 90 revolutions. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to the

12. B — Add the four values to obtain 84, then divide by the four observations. Eighty-four divided by four equals 21. Eighteen is too low because it ignores the larger values, while 20 and 22 do not evenly balance the deviations. The arithmetic mean is therefore 21. Reviewing the given information and eliminating choices that conflict with the

13. B — Shortening requires subtraction. Seventy-two inches minus 15 inches equals 57 inches. Adding 15 back to 57 returns the original 72-inch length, confirming the result. The other choices reflect subtracting 17, 14, or nine inches instead of the stated amount. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to the

14. C — Three-fourths of 64 can be found by dividing 64 by four and multiplying the result by three. One-fourth is 16, and three groups of 16 equal 48. The remaining options do not represent exactly 75 percent of the stated quantity. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to

15. D — Total washers equal the number of rows multiplied by washers in each row. Nine times 14 equals 126. The product can also be seen as ten groups of 14 minus one group, or 140 minus 14. The distractors result from small addition or multiplication errors. Reviewing the given information and eliminating choices that conflict with the

16. A — Fifteen percent of 160 dollars is 24 dollars because 0.15 times 160 equals 24. Subtracting the discount from the original price gives 136 dollars. The alternatives either subtract the wrong percentage or confuse the discount amount with the final sale price. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

17. C — Two hours equal 120 minutes. Adding the remaining 35 minutes gives 155 total minutes. The alternatives misconvert an hour or add the partial hour incorrectly. Because the question asks for total minutes, both full hours and the additional minutes must be included. Reviewing the given information and eliminating choices that conflict with the stated relationship leads

18. A — Fluid use at a constant hourly rate is rate multiplied by time. Three-point-two gallons per hour times six hours equals 19.2 gallons. The units of hours cancel, leaving gallons. The distractors reflect multiplication or decimal-placement errors and do not match the stated rate. Reviewing the given information and eliminating choices that conflict with the stated relationship

19. B — Perimeter is the distance around the rectangle, so add two lengths and two widths: 11 plus 11 plus seven plus seven equals 36 feet. Eighteen counts only one length and width, 77 is the area, and 32 results from an arithmetic error. Reviewing the given information and eliminating choices that conflict with the stated relationship leads

20. D — The completion rate is completed inspections divided by scheduled inspections. Forty-two divided by 60 equals 0.70, which converts to 70 percent. Multiplying 60 by 0.70 returns 42, confirming the ratio. The remaining percentages would correspond to different completed totals. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to the

21. C — Division is performed before addition. One hundred forty-four divided by 12 equals 12, and adding eight gives 20. Twelve omits the addition, while 18 and 24 reflect incorrect arithmetic. Following the standard order of operations makes 20 the single correct result. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

22. A — Total cost equals length multiplied by unit price. Twenty-five feet times 2.40 dollars per foot equals 60 dollars. The feet units cancel, leaving dollars. A mental check uses one-quarter of 240, which is 60. The alternatives do not match the stated price and length. Reviewing the given information and eliminating choices that conflict with the stated

23. D — To convert a decimal to a percentage, multiply by 100 and attach the percent sign. Zero-point-three-seven-five becomes 37.5 percent. The other choices move the decimal point incorrectly or transpose digits. Converting back by dividing 37.5 by 100 returns 0.375. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to the

24. B — Three-eighths of 320 is found by dividing 320 by eight and multiplying by three. One-eighth is 40 gallons, so three-eighths is 120 gallons. The alternatives represent different fractions or calculation errors. The result is below half of 320, as expected. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly to

25. A — Isolate the unknown by subtracting 18 from both sides. Forty-seven minus 18 equals 29, so x is 29. Substituting confirms that 18 plus 29 equals 47. Each distractor produces a sum other than the required total and therefore fails the equation. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

26. C — Each day includes two trips of 1.25 miles, totaling 2.5 miles. Over four days, 2.5 times four equals 10 miles. Five miles counts only one direction, while eight and 12 use incorrect daily distances. Both directions must be included for every day. Reviewing the given information and eliminating choices that conflict with the stated relationship leads

27. D — The tenths digit is seven and the next digit, the hundredths digit, is four. Because four is less than five, the tenths digit remains unchanged, producing 86.7. The other options round at a different place or incorrectly increase the tenths digit. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

28. B — The scale factor from three red parts to 24 red tags is eight. Apply the same factor to the five blue parts: five times eight equals 40 blue tags. The alternatives do not preserve the required three-to-five relationship when compared with 24 red tags. Reviewing the given information and eliminating choices that conflict with the stated

29. C — Ten feet equals 120 inches because each foot contains 12 inches. Subtracting the 7.5-inch trim leaves 112.5 inches. Adding 7.5 inches back reconstructs 120 inches. The distractors result from incorrect conversion or subtraction and do not preserve the original pipe length. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

30. D — Equal bracket weight is total weight divided by the number of brackets. Twenty-one pounds divided by six equals 3.5 pounds. Multiplying 3.5 by six returns 21, confirming the quotient. The alternative weights would produce totals of 18, 24, or 27 pounds. Reviewing the given information and eliminating choices that conflict with the stated relationship leads directly

31. B — 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 and eliminating choices

32. A — 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 — 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. C — 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 conflict with the

35. D — 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. A — 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 — 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 and eliminating choices

38. D — 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. C — 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. B — 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 — 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 that conflict with

42. C — 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 choices that conflict

43. A — 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. B — 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 — 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 eliminating choices that

46. C — 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 and eliminating choices

47. B — 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. A — 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 — 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 and eliminating choices

50. B — 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. C — 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 choices that conflict

52. D — 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 and eliminating choices

53. B — 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 and eliminating choices

54. A — 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 eliminating choices that

55. C — 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 choices that conflict

56. D — 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 eliminating choices that

57. A — 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 and eliminating choices

58. B — 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. C — 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 and eliminating choices

60. D — 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 same direction.

61. B — The passage directly supports “Verified absence of voltage.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

62. A — The passage directly supports “She needed authorization.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states. Reviewing the given information and eliminating choices

63. D — The passage directly supports “Lena followed controlled electrical inspection steps.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

64. C — The passage directly supports “A loose terminal.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states. Reviewing the given information and eliminating choices

65. A — The passage directly supports “Separated from its energy source.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

66. D — The passage directly supports “Two brackets.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence,

location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states. Reviewing the given information and eliminating choices that

67. B — The passage directly supports “To preserve evidence of the received condition.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

68. C — The passage directly supports “Keep them separated pending resolution.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

69. C — The passage directly supports “Omar compared the delivery with the packing list.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

70. D — The passage directly supports “The shipment quantity did not match the record.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

71. B — The passage directly supports “Three hours.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states. Reviewing the given information and eliminating choices that

72. A — The passage directly supports “Door operation on every landing.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

73. B — The passage directly supports “To the east elevator.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

74. D — The passage directly supports “To keep the work area clear.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

75. A — The passage directly supports “Temporary West Elevator Service Interruption.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

76. C — The passage directly supports “While traveling upward past the fourth floor.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

77. B — The passage directly supports “The sound’s direction and location.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

78. C — The passage directly supports “The disappearing sound did not prove the condition was safe.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

79. A — The passage directly supports “She stopped normal service.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

80. D — The passage directly supports “Priya treated an intermittent symptom as potentially important.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

81. C — The passage directly supports “On the bottom shelves.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

82. D — The passage directly supports “To protect them from damage.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

83. A — The passage directly supports “Tool name and inspection date.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

84. B — The passage directly supports “To make missing or overdue equipment easy to notice.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

85. C — The passage directly supports “Frequently used hand tools.” The relevant sentence provides that detail or makes the inference necessary without adding information. The other choices contradict the sequence, location, purpose, or condition described. Careful reading requires using only the supplied text rather than assuming facts that the passage never states.

86. A — 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 — 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. D — 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 — 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 damage surfaces.

90. D — 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. C — 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 type.

92. A — 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 information and eliminating choices

93. C — 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 and eliminating choices that

94. A — 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. B — 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 — 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 edges.

97. B — 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 — 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. A — 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. D — 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.