

PRACTICE EXAM 8: ELEVATOR INDUSTRY APTITUDE TEST SIMULATION (100 QUESTIONS)

This practice exam contains 100 multiple-choice questions covering basic arithmetic, reading comprehension, mechanical comprehension, and general tool knowledge. Select the best answer for each question. A score of 70% or higher meets the official EIAT minimum passing grade; this independent practice simulation is not an official NEIEP examination.

1. A mechanic has 48 bolts and uses 19. How many remain?

- A. 29
- B. 27
- C. 31
- D. 67

2. What is $\frac{7}{8}$ of 64?

- A. 48
- B. 54
- C. 56
- D. 72

3. A 15-foot cable is cut into five equal lengths. How long is each piece?

- A. 2
- B. 4
- C. 5
- D. 3

4. What is 35% of 240?

- A. 72
- B. 84
- C. 96
- D. 105

5. A rectangular platform is 12 feet long and 7 feet wide. What is its area?

- A. 38
- B. 76
- C. 84
- D. 168

6. Convert 4.5 feet to inches.

- A. 48
- B. 54
- C. 50
- D. 60

7. A lift travels 180 feet in 45 seconds. What is its average speed in feet per second?

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

8. What is $3.75 + 8.6$?

- A. 11.35
- B. 12.25
- C. 12.45
- D. 12.35

9. A box weighs 18 pounds. What do seven identical boxes weigh?

- A. 108
- B. 126
- C. 116
- D. 136

10. What is 144 divided by 12?

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

11. A \$320 tool is discounted by 15%. What is the discount amount in dollars?

- A. 32
- B. 45
- C. 48
- D. 272

12. What is the perimeter of a rectangle 9 feet long and 5 feet wide?

- A. 28

- B. 14
- C. 45
- D. 56

13. A crew finishes $\frac{3}{5}$ of 150 tasks. How many tasks are finished?

- A. 90
- B. 60
- C. 75
- D. 120

14. What is 2.4 multiplied by 3.5?

- A. 7.4
- B. 8.0
- C. 9.4
- D. 8.4

15. A tank contains 96 gallons and drains 8 gallons per minute. How many minutes will it take to empty?

- A. 8
- B. 10
- C. 12
- D. 14

16. What is the average of 14, 18, 22, and 26?

- A. 18
- B. 20
- C. 19

D. 21

17. A 10-foot board loses 18 inches when cut. How many inches remain?

- A. 98
- B. 100
- C. 112
- D. 102

18. What is $\frac{5}{6} + \frac{1}{3}$?

- A. 0.8333333333
- B. 1.0
- C. 1.1666666667
- D. 1.3333333333

19. A worker earns \$24 per hour for 7.5 hours. What is the gross pay?

- A. 180
- B. 168
- C. 176
- D. 192

20. A square opening has sides of 11 inches. What is its area?

- A. 22
- B. 121
- C. 44
- D. 111

21. What is 2,500 decreased by 12%?

- A. 2000
- B. 2250
- C. 2380
- D. 2200

22. A gear turns 18 revolutions per minute. How many revolutions occur in 25 minutes?

- A. 450
- B. 360
- C. 425
- D. 475

23. What is the greatest common factor of 36 and 54?

- A. 6
- B. 9
- C. 18
- D. 12

24. A right triangle has legs 6 and 8. What is the hypotenuse?

- A. 9
- B. 10
- C. 12
- D. 14

25. A 40-pound load is increased by 25%. What is the new weight?

- A. 45
- B. 55
- C. 65
- D. 50

26. Before energizing the hoist, Lena checked the barricades, verified that the landing doors were secured, and called to the crew. Only after every worker acknowledged the warning did she start the equipment.

What did Lena do immediately before starting the equipment?

- A. She obtained acknowledgment from every worker
- B. She removed all landing barricades
- C. She opened the landing doors
- D. She inspected the completed cab

27. Before energizing the hoist, Lena checked the barricades, verified that the landing doors were secured, and called to the crew. Only after every worker acknowledged the warning did she start the equipment.

Why did Lena call to the crew?

- A. To assign the next lunch break
- B. To warn workers before the hoist was energized
- C. To request replacement barricades
- D. To report that the cab was finished

28. Before energizing the hoist, Lena checked the barricades, verified that the landing doors were secured, and called to the crew. Only after every worker acknowledged the warning did she start the equipment.

Which statement best summarizes the passage?

- A. Lena repaired the hoist before testing it
- B. Lena allowed the crew to enter the shaft
- C. Lena completed a communication and access check before startup
- D. Lena started equipment without notifying anyone

29. Before energizing the hoist, Lena checked the barricades, verified that the landing doors were secured, and called to the crew. Only after every worker acknowledged the warning did she start the equipment.

What can reasonably be inferred about Lena's priority?

- A. Preventing exposure before equipment movement
- B. Finishing cosmetic work before inspection
- C. Reducing the number of workers onsite
- D. Increasing hoist speed during the test

30. Before energizing the hoist, Lena checked the barricades, verified that the landing doors were secured, and called to the crew. Only after every worker acknowledged the warning did she start the equipment.

In the passage, “secured” most nearly means:

- A. Measured for final dimensions
- B. Fastened or controlled against opening
- C. Painted with a protective coating
- D. Removed from its supporting frame

31. The maintenance log noted a faint vibration on Monday. By Wednesday the vibration was stronger, although operating speed and load had not changed. The supervisor scheduled an inspection rather than waiting for the next routine service.

Why was an inspection scheduled early?

- A. The operating load had been doubled
- B. The routine service was already completed
- C. The equipment had stopped permanently
- D. The vibration increased under otherwise similar conditions

32. The maintenance log noted a faint vibration on Monday. By Wednesday the vibration was stronger, although operating speed and load had not changed. The supervisor scheduled an inspection rather than waiting for the next routine service.

Which condition remained unchanged?

- A. The strength of the vibration
- B. The date of the next service
- C. The operating speed and load
- D. The supervisor's inspection decision

33. The maintenance log noted a faint vibration on Monday. By Wednesday the vibration was stronger, although operating speed and load had not changed. The supervisor scheduled an inspection rather than waiting for the next routine service.

What is the main idea?

- A. Routine service eliminated a vibration
- B. Higher loads always create vibration
- C. The supervisor canceled all inspections
- D. A worsening symptom prompted earlier maintenance attention

34. The maintenance log noted a faint vibration on Monday. By Wednesday the vibration was stronger, although operating speed and load had not changed. The supervisor scheduled an inspection rather than waiting for the next routine service.

The word “routine” most nearly means:

- A. Unexpected and urgent
- B. Regularly scheduled
- C. Technically impossible
- D. Informally documented

35. The maintenance log noted a faint vibration on Monday. By Wednesday the vibration was stronger, although operating speed and load had not changed. The supervisor scheduled an inspection rather than waiting for the next routine service.

Which fact most strongly supports the supervisor's decision?

- A. The vibration became stronger by Wednesday
- B. The first entry was made Monday
- C. A maintenance log was available
- D. The machine had an operating speed

36. A shipment contained three crates labeled CAB, CONTROLLER, and DOOR EQUIPMENT. The packing list placed the controller crate first, but the crew unloaded the door-equipment crate first because it was needed at the current work area.

Which crate was unloaded first?

- A. The cab crate
- B. The controller crate
- C. The door-equipment crate
- D. An unlabeled spare crate

37. A shipment contained three crates labeled CAB, CONTROLLER, and DOOR EQUIPMENT. The packing list placed the controller crate first, but the crew unloaded the door-equipment crate first because it was needed at the current work area.

Why did the crew depart from packing-list order?

- A. The current work area needed door equipment
- B. The controller crate was missing
- C. The cab crate was damaged
- D. The packing list prohibited unloading

38. A shipment contained three crates labeled CAB, CONTROLLER, and DOOR EQUIPMENT. The packing list placed the controller crate first, but the crew unloaded the door-equipment crate first because it was needed at the current work area.

Which crate appeared first on the packing list?

- A. The door-equipment crate
- B. The cab crate
- C. The spare-parts crate
- D. The controller crate

39. A shipment contained three crates labeled CAB, CONTROLLER, and DOOR EQUIPMENT. The packing list placed the controller crate first, but the crew unloaded the door-equipment crate first because it was needed at the current work area.

What contrast organizes the passage?

- A. New tools versus damaged tools
- B. Listed order versus practical unloading order
- C. Morning work versus evening work
- D. Manual lifting versus powered lifting

40. A shipment contained three crates labeled CAB, CONTROLLER, and DOOR EQUIPMENT. The packing list placed the controller crate first, but the crew unloaded the door-equipment crate first because it was needed at the current work area.

The phrase “current work area” refers to:

- A. A future storage warehouse
- B. The shipping company's office
- C. The location where the crew was presently working
- D. The controller manufacturer's plant

41. The foreperson asked Malik to measure the opening twice and record both results. The readings differed by one-eighth inch. Malik checked the tape hook, repeated the measurement, and obtained the same value as his second reading.

What did Malik check after finding different readings?

- A. The tape hook
- B. The door operator
- C. The electrical disconnect
- D. The shipping label

42. The foreperson asked Malik to measure the opening twice and record both results. The readings differed by one-eighth inch. Malik checked the tape hook, repeated the measurement, and obtained the same value as his second reading.

What result did the repeated measurement match?

- A. His first reading
- B. His second reading
- C. The foreperson's estimate
- D. The blueprint title

43. The foreperson asked Malik to measure the opening twice and record both results. The readings differed by one-eighth inch. Malik checked the tape hook, repeated the measurement, and obtained the same value as his second reading.

Why were two initial measurements useful?

- A. They eliminated the need to record values
- B. They proved the opening was perfectly square
- C. They replaced the need for any measuring tool
- D. They revealed an inconsistency requiring investigation

44. The foreperson asked Malik to measure the opening twice and record both results. The readings differed by one-eighth inch. Malik checked the tape hook, repeated the measurement, and obtained the same value as his second reading.

Which action best demonstrates verification?

- A. Estimating the opening by sight
- B. Ignoring the one-eighth-inch difference
- C. Repeating the measurement after checking the tool
- D. Using only the first recorded value

45. The foreperson asked Malik to measure the opening twice and record both results. The readings differed by one-eighth inch. Malik checked the tape hook, repeated the measurement, and obtained the same value as his second reading.

What can be concluded from the final reading?

- A. The opening changed size during the check
- B. The tape had no hook attached
- C. The second reading was reproducible
- D. The first reading was necessarily exact

46. A notice stated: Deliveries may enter through the east gate until 2:00 p.m. After that time, drivers must use the north gate because concrete placement will block the east approach. Emergency vehicles retain access at all times.

Which gate should a delivery driver use at 3:00 p.m.?

- A. The east gate
- B. Either gate without restriction
- C. No gate is available
- D. The north gate

47. A notice stated: Deliveries may enter through the east gate until 2:00 p.m. After that time, drivers must use the north gate because concrete placement will block the east approach. Emergency vehicles retain access at all times.

Why will the east approach be unavailable?

- A. Concrete placement will block it
- B. The gate is being permanently removed
- C. Emergency vehicles occupy it all day
- D. The north gate closes at noon

48. A notice stated: Deliveries may enter through the east gate until 2:00 p.m. After that time, drivers must use the north gate because concrete placement will block the east approach. Emergency vehicles retain access at all times.

Who retains access at all times?

- A. All delivery drivers
- B. Emergency vehicles
- C. Only concrete suppliers
- D. Visitors without deliveries

49. A notice stated: Deliveries may enter through the east gate until 2:00 p.m. After that time, drivers must use the north gate because concrete placement will block the east approach. Emergency vehicles retain access at all times.

What is the purpose of the notice?

- A. To prohibit every vehicle from entering
- B. To explain a time-dependent gate change
- C. To advertise a concrete supplier
- D. To revise employee work hours

50. A notice stated: Deliveries may enter through the east gate until 2:00 p.m. After that time, drivers must use the north gate because concrete placement will block the east approach. Emergency vehicles retain access at all times.

In the notice, “retain” most nearly means:

- A. Continue to have
- B. Temporarily surrender
- C. Measure precisely
- D. Apply for later

51. Two meshing external gears turn. If the driving gear rotates clockwise, how does the driven gear rotate?

- A. Clockwise
- B. It remains stationary
- C. Counterclockwise
- D. It alternates directions

52. A longer wrench is used on the same bolt with the same applied force. What changes?

- A. The bolt mass increases
- B. The friction becomes zero
- C. The force changes direction
- D. The applied torque increases

53. On an ideal fixed pulley, what is the primary benefit?

- A. It halves the required force
- B. It changes the direction of the applied force
- C. It doubles the load weight
- D. It stores mechanical energy

54. If the area of a hydraulic output piston is four times the input-piston area, the ideal output force is:

- A. Four times the input force
- B. One-fourth the input force
- C. Equal to the input force
- D. Sixteen times the input force

55. A small gear drives a larger gear. Compared with the small gear, the larger gear generally turns:

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

56. When a load's center of gravity moves beyond its support base, the load tends to:

- A. Become weightless
- B. Slide upward
- C. Tip over
- D. Reduce its mass

57. Which surface usually produces the greatest friction against the same material?

- A. A rough, dry surface
- B. A smooth, lubricated surface
- C. A polished, wet surface

D. An air-cushioned surface

58. A spring is compressed farther within its elastic range. Its restoring force generally:

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

59. For a balanced first-class lever, the clockwise and counterclockwise moments are:

- A. Both zero in every case
- B. Equal
- C. Unrelated to distance
- D. Always directed clockwise

60. A wide base makes a tall object more stable because it:

- A. Raises the center of gravity
- B. Eliminates the object's weight
- C. Permits more tilt before tipping
- D. Prevents every horizontal force

61. If identical lamps are connected in parallel, failure of one lamp usually causes the others to:

- A. All go dark
- B. Remain lit
- C. Double their resistance instantly
- D. Reverse current direction

62. Adding another identical lamp in series increases total circuit resistance and generally makes current:

- A. Increase
- B. Remain unchanged
- C. Reverse polarity
- D. Decrease

63. Why does lubrication reduce wear between moving metal parts?

- A. It separates surfaces with a low-friction film
- B. It increases surface roughness
- C. It removes all applied load
- D. It hardens every metal instantly

64. A heavier object and a lighter object fall in a vacuum. Ignoring relativity, they:

- A. The heavier accelerates faster
- B. The lighter accelerates faster
- C. Accelerate at the same rate
- D. Neither accelerates

65. Pressure on a surface equals force divided by:

- A. Area
- B. Volume
- C. Time
- D. Distance

66. A sharp blade cuts more easily than a dull blade under the same force because it applies force over:

- A. A larger mass
- B. A longer time only
- C. A greater volume
- D. A smaller area

67. Heating a typical metal rod while it is free to move causes it to:

- A. Contract
- B. Lose all strength
- C. Expand
- D. Gain mass

68. An idler gear placed between a driver and a driven gear mainly changes:

- A. The gear ratio magnitude
- B. Spacing and final rotation direction relationship
- C. The tooth size of every gear
- D. The material hardness

69. A block slides at constant speed across a floor while being pulled horizontally. The pull force is:

- A. Greater than friction
- B. Less than friction
- C. Equal to the opposing friction force
- D. Unrelated to friction

70. When a fluid flows through a narrower section of a pipe at steady incompressible flow, its speed generally:

- A. Decreases to zero
- B. Increases
- C. Remains necessarily identical
- D. Reverses direction

71. Which arrangement gives the greatest ideal mechanical advantage for lifting the same load?

- A. A movable pulley supported by multiple rope segments
- B. A single fixed pulley only
- C. A direct vertical hand lift
- D. A shorter unsupported rope

72. A fan continues spinning briefly after power is removed primarily because of:

- A. Buoyancy
- B. Magnetic polarity reversal
- C. Thermal expansion
- D. Inertia

73. A fuse is designed to open a circuit when:

- A. Voltage reaches exactly zero
- B. Resistance becomes infinite elsewhere
- C. Current exceeds its rated safe value
- D. A switch is manually closed

74. If a counterweight nearly balances a car, the motor mainly needs to overcome imbalance, friction, and:

- A. The entire combined mass as dead lift
- B. Gravity everywhere in the building

- C. Atmospheric pressure on the roof
- D. Acceleration forces

75. A load is moved closer to a lever's fulcrum while effort distance stays fixed. Required ideal effort:

- A. Increases
- B. Decreases
- C. Stays equal in all cases
- D. Changes direction only

76. Which tool is best for tightening a hex-head bolt to a specified torque?

- A. A torque wrench
- B. A pipe wrench
- C. A ball-peen hammer
- D. A cold chisel

77. Which tool measures an outside diameter most precisely?

- A. A framing square
- B. A chalk line
- C. A pry bar
- D. An outside micrometer

78. What is the primary purpose of a center punch?

- A. To cut external pipe threads
- B. To measure an inside angle
- C. To make an indentation that guides a drill bit
- D. To pull a bent nail

79. Which screwdriver is intended for a cross-shaped screw recess?

- A. A slotted screwdriver
- B. A Phillips screwdriver
- C. A hex key
- D. A pin punch

80. Which tool is designed to grip and turn round pipe?

- A. A pipe wrench
- B. A combination wrench
- C. A wood rasp
- D. A feeler gauge

81. A feeler gauge is commonly used to measure:

- A. Wire insulation resistance
- B. Small gaps or clearances
- C. Large room diagonals
- D. Liquid pressure

82. Which hammer is commonly used for striking punches and shaping metal?

- A. A ball-peen hammer
- B. A rubber mallet
- C. A sledgehammer
- D. A tack hammer

83. What should be done before changing a blade on a portable power saw?

- A. Increase the depth setting
- B. Hold the trigger down
- C. Lubricate the electrical plug
- D. Disconnect or isolate its power source

84. Which tool checks whether a surface is horizontal?

- A. A plumb bob
- B. A wire stripper
- C. A spirit level
- D. A socket extension

85. A plumb bob establishes:

- A. A horizontal reference
- B. A true vertical reference
- C. A threaded hole diameter
- D. A specified bolt torque

86. Which tool removes insulation from electrical conductors without intentionally cutting the conductor?

- A. Locking pliers
- B. Tin snips
- C. Wire strippers
- D. A masonry bit

87. Which file is generally suited to enlarging a round hole?

- A. A round file
- B. A flat file

- C. A mill square
- D. A hand saw

88. What does a tap produce?

- A. External threads on a rod
- B. A smooth countersink only
- C. A square keyway
- D. Internal threads in a hole

89. What does a die commonly produce?

- A. External threads on a rod
- B. Internal threads in a hole
- C. A drilled pilot hole
- D. A polished bearing surface

90. Which tool is best for checking a 90-degree angle between two surfaces?

- A. A pipe cutter
- B. A machinist's square
- C. A torque adapter
- D. A bearing puller

91. Why should a mushroomed chisel head be dressed or replaced?

- A. It makes the cutting edge softer
- B. It prevents all hammer rebound
- C. It increases measurement error
- D. Fragments can break off when struck

92. Which drill bit is intended primarily for concrete or masonry?

- A. A brad-point wood bit
- B. A high-speed steel twist bit only
- C. A carbide-tipped masonry bit
- D. A countersink cutter

93. Locking pliers differ from ordinary slip-joint pliers because they:

- A. Clamp and remain locked at an adjusted setting
- B. Measure electrical current
- C. Cut only hardened bolts
- D. Apply calibrated torque

94. Which wrench surrounds all six sides of a hex fastener head?

- A. An adjustable open-end wrench
- B. A chain wrench
- C. A six-point box-end wrench
- D. A strap wrench

95. A hacksaw blade should generally be installed so its teeth cut on the:

- A. Return stroke only
- B. Sideways stroke
- C. Upward storage position
- D. Forward stroke

96. Which tool creates a shallow conical recess so a flat-head screw can sit flush?

- A. A reamer
- B. A countersink
- C. A tap wrench
- D. A gear puller

97. What is a reamer primarily used to do?

- A. Start a hole in solid plate
- B. Cut external threads
- C. Bend sheet metal
- D. Finish a hole accurately to size

98. Which tool is designed to remove a gear or bearing from a shaft?

- A. A puller
- B. A tubing flarer
- C. A hand seamer
- D. A scratch awl

99. Before using a ladder, the user should first:

- A. Coat the rungs with oil
- B. Remove all identification labels
- C. Inspect it for damage and proper condition
- D. Place it on loose debris

100. Which instrument directly measures electrical voltage?

- A. A pressure gauge
- B. A voltmeter
- C. A tachometer

D. A torque wrench

Practice Exam 8: Answer Key and Explanations

1. **A** — Subtracting the 19 used bolts from the original 48 gives 29 bolts remaining. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
2. **C** — Multiplying 64 by $\frac{7}{8}$ gives 8 times 7, or 56. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
3. **D** — Dividing the total 15 feet by five equal pieces gives 3 feet per piece. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
4. **B** — Converting 35 percent to 0.35 and multiplying by 240 gives 84. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
5. **C** — Area equals length times width, so 12 multiplied by 7 equals 84 square feet. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
6. **B** — Each foot contains 12 inches, so 4.5 multiplied by 12 equals 54 inches. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
7. **A** — Average speed is distance divided by time: 180 divided by 45 equals 4 feet per second. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.
8. **D** — Aligning decimal places and adding gives 3.75 plus 8.60, which equals 12.35. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

9. B — Seven boxes at 18 pounds each weigh 7 multiplied by 18, or 126 pounds. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

10. D — Dividing 144 into 12 equal groups produces 12 in each group. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

11. C — The discount is 0.15 multiplied by 320, which equals 48 dollars. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

12. A — Perimeter is twice the sum of length and width: 2 times 14 equals 28 feet. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

13. A — Multiplying 150 by $\frac{3}{5}$ gives 30 times 3, or 90 finished tasks. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

14. D — Multiplying 24 by 35 and restoring two decimal places gives 8.4. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

15. C — Time equals total volume divided by drain rate: 96 divided by 8 equals 12 minutes. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

16. B — The four numbers total 80; dividing by four gives an average of 20. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

17. D — Ten feet equals 120 inches; subtracting 18 inches leaves 102 inches. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

18. C — Converting $\frac{1}{3}$ to $\frac{2}{6}$ gives $\frac{7}{6}$, which is approximately 1.1667. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

19. A — Multiplying 24 dollars per hour by 7.5 hours gives 180 dollars. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

20. B — A square's area is side squared, so 11 multiplied by 11 equals 121 square inches. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

21. D — A 12 percent decrease leaves 88 percent; 2,500 multiplied by 0.88 equals 2,200. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

22. A — Multiplying 18 revolutions per minute by 25 minutes gives 450 revolutions. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

23. C — The largest integer dividing both 36 and 54 evenly is 18. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

24. B — The Pythagorean theorem gives the square root of 36 plus 64, or 10. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

25. D — The increase is 10 pounds, so the new total is 50 pounds. Working from the stated values avoids estimating from the answer choices. The other results reflect a common operation, place-value, or unit-conversion error, so checking each step and its units is the most reliable way to select the single correct option.

26. A — The final action named before startup is obtaining acknowledgment from every worker. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

27. B — Her call was part of the safety sequence preceding energization. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

28. C — The passage emphasizes checks, secured access, and crew acknowledgment before startup. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

29. A — Every listed action reduces the chance that someone is exposed when equipment moves. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

30. B — In context, secured doors are controlled so they cannot open unexpectedly. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

31. D — The changing vibration, despite stable speed and load, justified prompt inspection. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

32. C — The passage explicitly says operating speed and load had not changed. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

33. D — The central point is escalation from a faint to stronger symptom and a quicker response. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

34. B — Routine service is maintenance planned at regular intervals rather than triggered by an unusual condition. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

35. A — An increasing vibration is the specific evidence of a developing problem. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

36. C — The passage directly states that door equipment was unloaded first. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

37. A — Worksite need, not list position, determined the unloading order. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked. Careful reading of the task and the units confirms the choice.

38. D — The first sentence about order identifies the controller crate as first on the list. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

39. B — The passage contrasts written sequence with the sequence chosen for immediate need. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

40. C — Current means present, so the phrase identifies the crew's active location. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

41. A — The passage says he checked the tape hook before measuring again. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

42. B — The repeated value agreed with the second of the original readings. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

43. D — Different readings exposed a discrepancy that a single reading would not reveal. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

44. C — Checking the tool and repeating the measurement tests whether a reading is reproducible. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

45. C — Matching the second result shows reproducibility, though not by itself absolute accuracy. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

46. D — After 2:00 p.m., the notice directs delivery drivers to the north gate. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

47. A — The notice gives concrete placement as the reason for the temporary restriction. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

48. B — The final sentence explicitly preserves continuous access for emergency vehicles. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

49. B — The notice tells drivers how access changes after a stated time and why. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

50. A — Emergency vehicles continue to have access; they do not lose it when the delivery route changes. This answer follows the passage directly and does not add an assumption the writer never made. The distractors either reverse the stated relationship, exaggerate a limited claim, or focus on a detail that does not answer the question being asked.

51. C — Meshing external gears reverse rotational direction at their contact point. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

52. D — Torque equals force multiplied by perpendicular distance from the pivot, so a longer handle increases torque. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

53. B — A single fixed pulley redirects the pull but provides no ideal force multiplication. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

54. A — Equal pressure throughout the fluid makes force proportional to piston area. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

55. D — A larger driven gear trades rotational speed for increased torque. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

56. C — Once the gravity line falls outside the support base, gravity creates an overturning moment. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

57. A — Rough dry contact usually resists sliding more than lubricated or separated surfaces. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

58. D — Hooke's law states that spring force grows with displacement within the elastic range. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

59. B — Rotational equilibrium requires equal opposing moments about the fulcrum. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

60. C — A broader support polygon permits more tilt before the gravity line passes beyond the edge. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

61. B — Each parallel branch has its own current path, so one open branch does not break the others. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

62. D — Series resistances add; with fixed voltage, Ohm's law predicts lower current. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

63. A — A lubricant film limits direct asperity contact, lowering friction and material loss. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

64. C — Without air resistance, gravitational acceleration is independent of object mass. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

65. A — Pressure distributes a normal force across the area carrying it. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

66. D — Concentrating force on a smaller edge area produces greater pressure. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

67. C — Thermal motion increases atomic spacing, producing expansion when movement is unrestrained. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

68. B — An idler transmits motion and affects direction arrangement without changing the overall ratio magnitude. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

69. C — Constant velocity means zero net horizontal force, so pull and friction balance. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

70. B — Continuity requires the same volume flow rate, so velocity rises as cross-sectional area falls. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

71. A — More supporting rope segments divide the load among tensions and reduce required ideal input force. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

72. D — Rotational inertia resists an immediate change from motion to rest. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system. Careful reading of the task and the units confirms the choice.

73. C — Excess current heats the fuse element until it melts and interrupts the circuit. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

74. D — Balancing reduces the steady gravitational load, leaving imbalance, friction, and inertial demand during acceleration. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

75. B — Reducing the load arm reduces its moment, so less effort balances it at the same effort arm. The governing principle predicts this result under the conditions in the stem. The other choices confuse force with motion, reverse the direction of an interaction, or ignore how distance, load, friction, pressure, or mechanical advantage affects the system.

76. A — A torque wrench indicates or limits the applied turning moment to a specified value. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

77. D — An outside micrometer uses a calibrated screw to measure external dimensions precisely. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

78. C — A center-punch mark keeps the drill point from wandering at startup. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

79. B — A Phillips tip matches the intersecting slots of a cross-shaped recess. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

80. A — A pipe wrench has serrated jaws arranged to bite into round pipe under turning load. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

81. B — Thin leaves of known thickness are inserted into a gap to determine clearance. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

82. A — The hardened face strikes punches, while the rounded peen can shape metal. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

83. D — Power isolation prevents unintended startup while hands are near the blade and arbor. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

84. C — The level vial centers its bubble when the tool is horizontal. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

85. B — A suspended weight aligns with gravity and defines a vertical line. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

86. C — Sized stripper openings cut insulation while preserving the metal conductor. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

87. A — A round file's curved cutting surface fits and enlarges circular openings. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

88. D — A tap cuts helical internal threads so a matching fastener can engage the hole. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

89. A — A threading die cuts external helical threads on round stock. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

90. B — The square's blade and stock provide a fixed right-angle reference. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

91. D — A flared, cracked head can shed high-speed metal fragments under hammer impact. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

92. C — The hard carbide tip withstands abrasive masonry and works with impact action when appropriate. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

93. A — Their over-center mechanism holds a preset grip until the release lever is operated. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

94. C — A six-point box end contacts all flats and reduces the chance of rounding. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

95. D — Standard hacksaw frames tension the blade for cutting as the user pushes forward. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

96. B — A countersink cuts a conical seat matching the underside of a flat-head screw. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

97. D — A reamer removes a small amount of material to improve hole size and finish. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

98. A — Puller jaws grip the component while a forcing screw pushes against the shaft. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

99. C — Inspection identifies damaged rails, rungs, feet, locks, or contamination before climbing. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.

100. B — A voltmeter is connected across two points to measure electrical potential difference. Selecting the tool by its intended function improves accuracy and reduces damage to the workpiece or fastener. The alternatives may look similar or be useful nearby, but their shapes, gripping surfaces, measuring features, or cutting actions are designed for different tasks.