PRACTICE EXAM 21: STEAMFITTERS APPRENTICE APTITUDE SIMULATION (100 QUESTIONS)

This editorial simulation contains 100 questions across reading, numerical comprehension, numerical reasoning, mechanical aptitude, and 3D visualization. Use a 90-minute practice target if your local program gives no timing guidance. Local programs set their own format, timing, and qualifying standards; this practice target is not an official requirement.

1. In the Elm Harbor practice set, Work card ELM-21-18 for the Elm Harbor crew says: isolate the line, attach a tag, photograph the gauge, then notify the lead. If an active leak is observed, notify the lead before taking the photograph. What is the first action when an active leak is present?

A. Photograph the gauge.
B. Notify the lead.
C. Remove the tag.
D. Restart the line.

2. In the Elm Harbor practice set, A Elm Harbor application notice states that forms received by 4:00 p.m. Friday are reviewed Monday. Incomplete forms are held until corrected. A complete form arrives Thursday morning. When is it first eligible for review?

A. The following Friday.
B. Thursday afternoon.
C. Friday morning.
D. Monday.

3. In the Elm Harbor practice set, The Elm checklist lists: inspect gasket, compare size, clean flange, record result. Which step must occur immediately after comparing size?

A. Clean the flange.

B. Inspect the gasket.
C. Record the result.
D. Install the valve.

4. In the Elm Harbor practice set, A supervisor note says, “Use the blue tags for equipment awaiting inspection; red tags mean out of service.” A valve has a blue tag. What does the note support?

A. It passed inspection.
B. It is out of service.
C. It is awaiting inspection.
D. It needs repainting.

5. In the Elm Harbor practice set, An inventory sheet marks gloves as “reorder at 12 pairs.” The shelf has 14 pairs. Which action follows the stated rule?

A. Discard two pairs.
B. Reorder immediately.
C. Do not reorder yet.
D. Move gloves to shipping.

6. In the Elm Harbor practice set, A practice memo allows calculators only during Section C. A candidate reaches Section B and asks to use one. What should the proctor do under the memo?

A. Replace the calculator with a ruler.
B. Allow it for one problem.
C. Cancel the whole test.
D. Wait until Section C.

7. In the Elm Harbor practice set, The Elm Harbor route sheet says the north gate is closed after 6:00 p.m.; deliveries after that time use the east gate. A delivery arrives at 6:20 p.m. Which gate applies?

A. East gate.
B. North gate.
C. Either gate.
D. The loading dock only.

8. In the Elm Harbor practice set, A reading passage states that a pressure reading is recorded only after the gauge settles for ten seconds. A trainee writes down the value immediately. Which requirement was missed?

A. Changing the pipe size.
B. Waiting for the gauge to settle.
C. Converting units twice.
D. Opening the drain.

9. In the Elm Harbor practice set, A work order permits solvent X on steel surfaces but prohibits it on painted labels. The part has steel and a painted label. Where may solvent X be used?

A. Across the entire part.
B. On the label only.
C. On the steel surface only.
D. Nowhere on the part.

10. In the Elm Harbor practice set, A training notice has three conditions: wear eye protection, keep the guard installed, and stop if vibration increases. Vibration rises during a cut. What does the notice require?

A. Stop the cut.
B. Remove the guard.
C. Continue more slowly.
D. Turn off eye protection.

11. In the Elm Harbor practice set, The Elm log records a start time, an end time, and the initials of the reviewer. One entry has times but no initials. What is missing?

A. A second start time.
B. Reviewer initials.
C. A pipe diameter.
D. A material invoice.

12. In the Elm Harbor practice set, A diagram key says solid lines are supply lines and dashed lines are return lines. A dashed line leaves a heat exchanger. How should it be classified?

A. Drain-only line.
B. Supply line.
C. Electrical line.
D. Return line.

13. In the Elm Harbor practice set, An instruction says, “Tighten bolts in a cross pattern, then recheck each bolt once.” Which action comes second?

A. Recheck each bolt once.
B. Tighten the first bolt twice.
C. Tighten in a circle.
D. Remove all bolts.

14. In the Elm Harbor practice set, A note distinguishes “scheduled” work from “urgent” work. Scheduled work may wait for the next planned shift; urgent work requires same-shift attention. A cracked bracket is labeled urgent. What follows?

A. Defer it one week.
B. Address it this shift.
C. File it without action.
D. Treat it as scheduled.

15. In the Elm Harbor practice set, The Elm Harbor test-room notice says scratch paper must be returned before leaving. A candidate finishes early. What must happen before departure?

A. Photograph the paper.
B. Take the paper home.
C. Return the scratch paper.
D. Leave it on the desk.

16. In the Elm Harbor practice set, A specification lists an acceptable gap of 1/16 inch or less. A measured gap is 3/32 inch. What does the specification indicate?

A. The measurement is irrelevant.
B. The gap is acceptable.
C. The gap is exactly nominal.
D. The gap is too large.

17. In the Elm Harbor practice set, A paragraph says the first sample is discarded, the second is labeled, and the third is tested. Which sample is labeled?

A. The second sample.
B. The first sample.
C. The third sample.
D. All three samples.

18. In the Elm Harbor practice set, A planner writes, “If weather delays delivery, call the supplier; otherwise, stage material by noon.” Weather delays the delivery. What action is selected?

A. Cancel the order.
B. Stage material by noon.
C. Call the supplier.

D. Stage material at midnight.

19. In the Elm Harbor practice set, A form has boxes for employee name, work area, date, and reviewer signature. The first three are complete, but the signature box is blank. What is the form status?

A. Ready for disposal.
B. Approved.
C. Overdue by definition.
D. Incomplete.

20. In the Elm Harbor practice set, A passage says a tool may be shared only after it is cleaned and returned to the marked cabinet. A worker cleans the tool but leaves it on a bench. What condition remains unmet?

A. Cleaning the tool.
B. Returning it to the marked cabinet.
C. Writing a new work order.
D. Changing the tool color.

21. In the Elm Harbor practice set, A tray contains 38 bolts plus 47 bolts, with both counts increased by 60. What is the total?

A. 205
B. 98
C. 107
D. 210

22. In the Elm Harbor practice set, A stock count of 142 is reduced by 58. Increase the starting count by 60; what remains?

A. 152

B. 202
C. 58
D. 144

23. In the Elm Harbor practice set, Each bundle has 7 fittings. There are 16 bundles plus 60 additional bundles. How many fittings?

A. 76
B. 532
C. 7
D. 518

24. In the Elm Harbor practice set, A foreman divides 348 washers equally into 12 bins. How many washers per bin?

A. 82
B. 12
C. 29.0
D. 86

25. In the Elm Harbor practice set, A 84-inch strip is cut to one quarter of its length. What is the cut length?

A. 21.0
B. 0.25
C. 84
D. 23.0

26. In the Elm Harbor practice set, A batch contains 220 pieces. Fifteen percent are inspected. How many pieces is that?

A. 29.0
B. 0.15
C. 39.0
D. 33.0

27. In the Elm Harbor practice set, Convert 65 feet to inches using 12 inches per foot.

A. 12
B. 780
C. 768
D. 792

28. In the Elm Harbor practice set, Convert 156 inches to yards using 36 inches per yard.

A. 52.0
B. 3
C. 56.0
D. 50.0

29. In the Elm Harbor practice set, Using F = (9/5)C + 32, find Fahrenheit when C = 80.

A. 0
B. 80
C. 176.0
D. 180.0

30. In the Elm Harbor practice set, A rectangle is 74 units long and 8 units wide. What is its area?

A. 8
B. 592
C. 148

D. 156

31. In the Elm Harbor practice set, A rectangle is 71 units long and 6 units wide. What is its perimeter?

A. 160
B. 71
C. 6
D. 154

32. In the Elm Harbor practice set, Find the area of a triangle with base 72 and height 9.

A. 72
B. 9
C. 324.0
D. 333.0

33. In the Elm Harbor practice set, Find the average of readings 78 and 24.

A. 26
B. 20
C. 51.0
D. 70

34. In the Elm Harbor practice set, A ratio assigns 5 washers per fitting. How many washers for 63 fittings?

A. 315
B. 63
C. 5
D. 330

35. In the Elm Harbor practice set, An amount of 140 increases by 10 percent. What is the increase?

A. 140
B. 0.1
C. 16.0
D. 14.0

36. In the Elm Harbor practice set, A pump moves 67.2 gallons at 0.6 gallon per cycle. How many cycles?

A. 0.6
B. 112.0
C. 70
D. 30

37. In the Elm Harbor practice set, Add 63.25 and 2.5.

A. 65.75
B. 2.5
C. 66.25
D. 63.25

38. In the Elm Harbor practice set, Evaluate (66 × 4) + 8.

A. 280
B. 4
C. 272
D. 264

39. In the Elm Harbor practice set, How many complete groups of 9 are in 197?

A. 9
B. 21
C. 74
D. 76

40. In the Elm Harbor practice set, A drawing uses a scale of 1 to 48. What actual length corresponds to 61 drawing units?

A. 76
B. 18
C. 72
D. 2928

41. In the Elm Harbor practice set, A trainee earns $78 per hour for 7 hours. What is the gross amount?

A. 85
B. 600.6
C. 546
D. 468

42. In the Elm Harbor practice set, A crew installs 72 supports in 3 hours. At the same rate, how many supports in 6 hours?

A. 72
B. 146
C. 142
D. 144

43. In the Elm Harbor practice set, A truck travels 105 miles in 1 hours. What is its average speed?

A. 105
B. 110
C. 100
D. 90

44. In the Elm Harbor practice set, A recipe uses 2 parts sealant to 5 parts catalyst. How much catalyst is needed for 68 parts sealant?

A. 136
B. 170
C. 73
D. 340

45. In the Elm Harbor practice set, A column exerts 1 psi for every 2.31 feet of water. What pressure does 83.1 feet exert?

A. 34.974026
B. 36.974026
C. 35.974026
D. 83.1

46. In the Elm Harbor practice set, Use circumference = 3.14 × diameter for a circle with diameter 70.

A. 219.8
B. 109.9
C. 439.6
D. 70

47. In the Elm Harbor practice set, A cylinder has radius 3 and height 70. Using volume = $3.14r^2h$, what is its volume?

A. 630
B. 659.4
C. 28.26
D. 1978.2

48. In the Elm Harbor practice set, Solve 4x + 72 = 100.

A. 69
B. 7
C. 1.5625
D. 125

49. In the Elm Harbor practice set, Solve 3x − 69 = -39.

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

50. In the Elm Harbor practice set, A right triangle has legs 9 and 12. What is the hypotenuse?

A. 15
B. 21
C. 12
D. 18

51. In the Elm Harbor practice set, A line rises 72 units over a run of 4. What is its slope?

A. 19
B. 18
C. 17

D. 0.055556

52. In the Elm Harbor practice set, A supplier discounts a $160 order by 15 percent. What is the discount amount?

A. 32
B. 16
C. 24
D. 145

53. In the Elm Harbor practice set, A local rule in this exercise adds 6 percent tax to a $110 purchase. What tax is charged?

A. 13.2
B. 3.3
C. 6.6
D. 7

54. In the Elm Harbor practice set, A project has 80 working days and uses 3 days per phase. How many complete phases fit?

A. 26
B. 26.666667
C. 27
D. 3

55. In the Elm Harbor practice set, Pump A fills 4 gallons per minute and Pump B fills 3 gallons per minute. How many minutes for 88 gallons together?

A. 6
B. 22

C. 29.333333
D. 12.571429

56. In the Elm Harbor practice set, A hose delivers 96 gallons in 6 minutes. What is its flow rate?

A. 18
B. 16
C. 14
D. 96

57. In the Elm Harbor practice set, Gear A has 72 teeth and drives Gear B with 96 teeth. If A turns 9 revolutions, how many does B turn?

A. 6.75
B. 12
C. 10
D. 8

58. In the Elm Harbor practice set, A box contains 63 red, 62 blue, and 65 green washers. What is the probability of drawing blue?

A. 0.6
B. 0.331579
C. 0.342105
D. 0.326316

59. In the Elm Harbor practice set, A rectangular plate 68 by 65 is enlarged by a linear factor of 2. What is the new area?

A. 4690
B. 8840

C. 17680
D. 4420

60. In the Elm Harbor practice set, A spool holds 520 labels divided equally among 8 racks. How many labels go on each rack?

A. 64
B. 65
C. 66
D. 68

61. In the Elm Harbor practice set, Two wrenches turn the same bolt. Which handle needs less hand force for the same turning effect?

A. Either handle always needs equal force.
B. The shorter handle.
C. The longer handle.
D. The handle with a painted grip.

62. In the Elm Harbor practice set, A fixed pulley is used to lift a load. What is its main ideal advantage?

A. It doubles the load weight.
B. It changes force direction.
C. It removes all friction.
D. It stores electrical charge.

63. In the Elm Harbor practice set, A movable pulley supports a load with two rope segments. Ignoring friction, what happens to the needed pull?

A. It becomes four times the load.
B. It is twice the load.

C. It equals zero.
D. It is about half the load.

64. In the Elm Harbor practice set, A plate experiences 180 pounds of force over 6 square inches. What pressure is applied?

A. 30.0
B. 1080
C. 60.0
D. 180

65. In the Elm Harbor practice set, A hydraulic press has a small piston and a larger piston. Which statement describes the ideal pressure?

A. The fluid changes into a solid.
B. Pressure disappears at the larger piston.
C. Only the small piston feels force.
D. Pressure is transmitted through the fluid.

66. In the Elm Harbor practice set, Which change most directly increases friction between two dry surfaces?

A. Polishing both surfaces to zero roughness.
B. Increasing the normal force.
C. Removing all contact force.
D. Separating the surfaces.

67. In the Elm Harbor practice set, A steel ball and a wooden block are placed in water. Which property determines whether each floats or sinks?

A. Relative density.

B. Color of the material.
C. Surface brightness.
D. Shape of the label.

68. In the Elm Harbor practice set, In a simple series circuit, what happens if one lamp opens?

A. Current increases everywhere.
B. The other lamp becomes a battery.
C. The circuit path is interrupted.
D. The wire becomes longer.

69. In the Elm Harbor practice set, In a parallel circuit, one branch opens while another remains intact. What is expected in the intact branch?

A. The source reverses polarity.
B. All branches must open.
C. It can still conduct.
D. The intact branch loses its wire.

70. In the Elm Harbor practice set, Which heat-transfer mode moves energy through direct contact between touching materials?

A. Conduction.
B. Radiation only.
C. Reflection.
D. Compression.

71. In the Elm Harbor practice set, A force is applied farther from a pivot. What happens to torque when force stays constant?

A. The pivot disappears.

B. Torque becomes zero.
C. Torque always halves.
D. Torque increases.

72. In the Elm Harbor practice set, A loaded cart is easier to tip when its center of gravity is higher because the weight line is more likely to move outside the base.

A. False; height cannot matter.
B. True.
C. True only for empty carts.
D. False; the base has no role.

73. In the Elm Harbor practice set, Which change makes an inclined plane require less ideal input force for the same height?

A. Removing the height.
B. Making the ramp shorter.
C. Making the ramp longer.
D. Adding a second load.

74. In the Elm Harbor practice set, A machine receives 200 joules and delivers 150 joules of useful output. What is its efficiency?

A. 75
B. 50
C. 80
D. 350

75. In the Elm Harbor practice set, A 10-newton force moves an object 4 meters in its direction. How much work is done?

A. 2.5
B. 40
C. 14
D. 400

76. In the Elm Harbor practice set, A circuit has 12 volts across a 4-ohm resistor. What current flows?

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

77. In the Elm Harbor practice set, A spring stretches farther when the applied load increases within its elastic range. Which relationship is illustrated?

A. Extension independent of load.
B. Greater load, zero extension.
C. Less load, greater extension always.
D. Greater load, greater extension.

78. In the Elm Harbor practice set, A valve handle is aligned with a pipe in a stated exercise rule. What position does the rule identify?

A. Locked out.
B. Closed.
C. Open.
D. Disconnected.

79. In the Elm Harbor practice set, A pipe support is loose and the line is vibrating. What is the safest reasoning step before adjustment?

A. Stop and secure the work area.
B. Increase the vibration.
C. Remove every support.
D. Ignore the movement.

80. In the Elm Harbor practice set, Two equal opposite forces act along the same line on a stationary part. What is the net force?

A. 2
B. 0
C. 1
D. 4

81. In the Elm Harbor practice set, A cube has opposite face pairs A–D, B–E, and C–F. Which face is opposite A?

A. C
B. B
C. D
D. E

82. In the Elm Harbor practice set, A square plate is rotated 90 degrees clockwise. Which edge moves to the top if the original right edge is marked R?

A. R
B. The original top edge.
C. The original bottom edge.
D. The original left edge.

83. In the Elm Harbor practice set, A cube net has four squares in a row, with one square attached above the second and one below the second. Which row square is opposite the second square after folding?

A. The first square.
B. The fourth square.
C. The square above.
D. The square below.

84. In the Elm Harbor practice set, A drawing shows a bolt head above a washer and a nut below the washer. Viewed from the side, which part is lowest?

A. The bolt shank.
B. The bolt head.
C. The washer.
D. The nut.

85. In the Elm Harbor practice set, A rectangular panel is mirrored left-to-right. A mark originally near the left edge appears where?

A. Near the right edge.
B. Near the top edge.
C. Near the bottom edge.
D. At the same left edge.

86. In the Elm Harbor practice set, A stack has three cubes on the bottom row and one cube centered on top. How many cubes are visible from the front?

A. Six.
B. Three.
C. Two.
D. Four.

87. In the Elm Harbor practice set, A pipe route turns north, then east, then south by the same distance. Relative to its start, where is the endpoint?

A. North.
B. East.
C. South.
D. At the start.

88. In the Elm Harbor practice set, A square is divided by both diagonals. Into how many triangular regions is it divided?

A. 3
B. 2
C. 4
D. 8

89. In the Elm Harbor practice set, A pattern repeats red, blue, green, yellow. What color is in position 10?

A. Blue
B. Red.
C. Green.
D. Yellow.

90. In the Elm Harbor practice set, A rectangular block is viewed from above. Which dimension is usually represented by the plan view?

A. Height only.
B. Length and width.
C. Width and height only.
D. Diagonal only.

91. In the Elm Harbor practice set, A hole drilled straight through a cube from front to back is circular in the front view. What shape is its side-view opening?

A. A pentagon.
B. A triangle.
C. A circle.
D. A rectangle.

92. In the Elm Harbor practice set, A ladder leans against a wall. Its foot moves farther from the wall while the top stays on the wall. What happens to the angle with the ground?

A. It becomes 90 degrees.
B. It increases.
C. It decreases.
D. It stays fixed.

93. In the Elm Harbor practice set, A technical note labels three parallel lines 1, 2, and 3 from left to right. The image is flipped horizontally. Which label is now leftmost?

A. 3
B. 1.
C. 2.
D. The labels disappear.

94. In the Elm Harbor practice set, A rectangular opening is 2 units wide and 5 units high. Rotating the drawing 90 degrees swaps these dimensions. What is the new width?

A. 7
B. 2
C. 5
D. 10

95. In the Elm Harbor practice set, A cube is painted on all six faces and cut into 27 equal smaller cubes. How many small cubes have paint on three faces?

A. 27
B. 6
C. 12
D. 8

96. In the Elm Harbor practice set, A route moves 4 units east, 4 north, 4 west, and 4 south. Where does it finish?

A. 4 units east.
B. At the start.
C. 4 units north.
D. 8 units away.

97. In the Elm Harbor practice set, A symbol points up. It is rotated 180 degrees, then 90 degrees clockwise. Which direction does it point?

A. Right.
B. Left.
C. Up.
D. Down.

98. In the Elm Harbor practice set, A rectangular prism has dimensions 2 by 3 by 4. What is its volume?

A. 12
B. 9
C. 24
D. 18

99. In the Elm Harbor practice set, A view shows a circle inside a square outline. Which object best matches that view when looking straight at its end?

A. A cylinder.
B. A cone.
C. A rectangular bar.
D. A triangular prism.

100. In the Elm Harbor practice set, A sequence of arrow turns is clockwise, clockwise, counterclockwise, clockwise. What is the net turn?

A. No turns.
B. Four clockwise turns.
C. Two counterclockwise turns.
D. Two clockwise turns.

Practice Exam 21: Answer Key and Explanations

1. B — The active-leak exception moves notification ahead of photography. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

2. D — The complete Thursday submission enters the next Monday review cycle. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

3. A — The checklist sequence places cleaning directly after the size comparison. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

4. C — The blue-tag definition states awaiting inspection, without adding another status. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

5. C — Fourteen pairs exceed the stated reorder point, so ordering is not triggered. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

6. D — The memo limits calculator use to Section C, so Section B remains calculator-free. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

7. A — The time is after 6:00 p.m., activating the east-gate instruction. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

8. B — The passage makes the ten-second settling period a prerequisite to recording. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

9. C — The permission applies to steel, while the label is expressly excluded. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

10. A — The stop condition is explicit and overrides the normal continuation of the cut. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

11. B — The log format names reviewer initials as the third required entry. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

12. D — The key assigns dashed lines to return service, regardless of the component. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

13. A — The instruction gives the cross-pattern tightening first and one recheck second. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

14. B — The definition of urgent work requires attention during the same shift. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

15. C — Returning scratch paper is an explicit departure requirement. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

16. D — Three thirty-seconds exceeds one sixteenth, so the stated limit is not met. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

17. A — The sentence assigns labeling specifically to the second sample. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

18. C — The weather-delay condition selects the supplier call and excludes the alternative. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

19. D — A required reviewer signature is missing, so the form is not complete. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

20. B — Both conditions are required; cleaning alone does not complete the return step. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

21. A — Adding the two adjusted counts gives the stated total. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

22. D — Subtracting 58 from the adjusted starting value gives the remainder. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

23. B — Multiplying the adjusted bundle count by seven gives the total. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

24. C — Dividing the adjusted quantity into twelve equal bins gives the quotient. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

25. A — Taking one quarter of the adjusted strip gives the cut length. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

26. D — Multiplying the adjusted batch by fifteen percent gives the inspected count. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

27. B — Converting each adjusted foot with twelve inches gives the total. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

28. A — Dividing the adjusted inches by thirty-six gives the yard count. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

29. C — Applying nine-fifths and then adding thirty-two gives Fahrenheit. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or

add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

30. B — Multiplying adjusted length by width gives rectangle area. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

31. D — Adding the dimensions and doubling the sum gives perimeter. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

32. C — One-half base times height gives the triangle area. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

33. C — Adding both readings and dividing by two gives the average. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

34. A — Multiplying the adjusted fitting count by five gives washers. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

35. D — Multiplying the adjusted amount by ten percent gives the increase. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

36. B — Dividing the adjusted gallons by six-tenths gives cycles. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

37. A — Adding the two decimal quantities gives the adjusted sum. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

38. C — Multiplication precedes addition, producing the evaluated expression. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and

supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

39. B — Whole-number division counts only complete groups of nine. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

40. D — Multiplying drawing units by the scale factor gives actual length. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

41. C — Multiplying the hourly rate by the stated hours gives the gross amount. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

42. D — The constant-rate proportion scales supports by the ratio of the two times. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

43. A — Average speed divides the distance by elapsed time. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

44. B — The ratio multiplies sealant parts by five halves to obtain catalyst parts. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

45. C — The stated pressure rule divides water height by 2.31 feet per psi. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

46. A — Circumference uses the full diameter in the supplied formula. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

47. D — Cylinder volume squares the radius before multiplying by height and 3.14. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

48. B — Subtracting the constant and dividing by four isolates x. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

49. D — Adding the subtracted constant and dividing by three gives x. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

50. A — The Pythagorean relationship takes the square root of the summed squares. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

51. B — Slope is rise divided by run using the two stated changes. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

52. C — The discount amount is fifteen percent of the original order. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

53. C — The exercise-defined tax is six percent of the purchase price. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

54. A — Complete phases use whole-number division and ignore the partial remainder. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

55. D — Combined rate is seven gallons per minute before dividing the volume. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the

relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

56. B — Flow rate divides gallons by minutes. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

57. A — Driven revolutions equal driver revolutions times the tooth ratio. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

58. D — Probability is favorable blue washers divided by the total washers. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

59. C — Doubling both dimensions multiplies area by the square of two. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

60. B — Equal division assigns the total labels evenly to eight racks. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

61. C — A longer lever arm produces the same turning effect with less force. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

62. B — A fixed pulley redirects the pull while leaving ideal force magnitude unchanged. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

63. D — Two supporting segments share the load, reducing the ideal pull to one-half. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

64. A — Pressure equals force divided by contact area. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

65. D — An enclosed fluid transmits applied pressure, allowing force multiplication by area. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

66. B — Greater normal force increases the resisting frictional interaction in this comparison. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

67. A — Floating depends on density compared with the surrounding fluid, not appearance. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

68. C — An open component breaks the single current path in a series circuit. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

69. C — Separate parallel paths allow an unaffected branch to remain complete. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

70. A — Conduction transfers thermal energy through contact and particle interactions. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

71. D — Torque equals force times perpendicular distance, so increasing distance increases torque. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

72. B — A higher center of gravity increases tipping leverage when the weight line shifts. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

73. C — A longer ramp spreads the required work over a greater distance. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

74. A — Efficiency is useful output divided by input, expressed as a percentage. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

75. B — Work equals force multiplied by displacement in the force direction. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

76. D — Ohm’s law gives current by dividing voltage by resistance. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

77. D — Within the stated range, extension increases with applied load. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

78. C — The exercise rule defines alignment with the pipe as the open position. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

79. A — Securing the area prevents movement from becoming an uncontrolled hazard. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

80. B — Equal opposite forces cancel, leaving zero net force. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

81. C — Opposite-face pairs are given directly, so A matches D. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

82. A — A clockwise quarter-turn carries the original right edge to the top. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

83. B — The four-square strip wraps around, placing the first and third adjacent to the center and the fourth opposite it. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning.

84. D — The side view preserves the stated vertical order from head through washer to nut. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning.

85. A — A horizontal mirror reverses left and right while preserving vertical position. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

86. D — The front view shows the three bottom cubes and the centered cube above them. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning.

87. B — The north and south movements cancel, leaving the eastward segment. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

88. C — Both diagonals cross at the center and create four triangular regions. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or

add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

89. A — Position ten is the second position in a four-color repeating cycle. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

90. B — A plan view looks down and shows the horizontal footprint. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

91. D — The cylindrical hole appears circular end-on and rectangular along its length from the side. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning.

92. C — With the same height and a longer base distance, the ladder becomes shallower. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

93. A — A horizontal flip reverses the left-to-right order. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

94. C — A quarter-turn exchanges the original width and height. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

95. D — Only the eight corner cubes touch three outer faces. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

96. B — Equal opposite movements cancel in both directions. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

97. B — The combined turn is 270 degrees clockwise, taking up to left. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or

add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

98. C — Volume multiplies the three perpendicular dimensions. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

99. A — A cylinder presents a circular end within a surrounding square boundary. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.

100. D — Three clockwise and one counterclockwise turn leave two clockwise turns. The keyed choice follows directly from the information given. The other choices ignore a condition, reverse the relationship, or add an unsupported fact. Tying the decision to stated data prevents assumptions and supports reliable aptitude reasoning. This preserves the stated constraint and demonstrates disciplined reasoning.