

# PRACTICE EXAM 15: CCAT GRADE 4 SIMULATION (176 QUESTIONS)

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*This practice exam contains 176 multiple-choice questions arranged in the same three groups as the real test: Verbal, Quantitative, and Nonverbal. Each question has four answer choices, labeled A through D, and only one is correct. Describe each rule in your own words before choosing, mark an answer for every question, and use the answer key and explanations afterward to review every item, including those you answered correctly. The real CCAT times each of its nine tests at 10 minutes, so you may wish to practice some sections with a timer.*

1. Coin is to wallet as book is to \_\_\_\_.

- A. cloud
- B. shelf
- C. spoon
- D. river

2. Cashier is to checkout as teacher is to \_\_\_\_.

- A. classroom
- B. basket
- C. receipt
- D. coupon

3. Cold is to hot as cheap is to \_\_\_\_.

- A. small
- B. quick
- C. costly
- D. loud

4. Wallet is to money as basket is to \_\_\_\_.

- A. cashier
- B. aisle
- C. price
- D. groceries

5. Bakery is to bread as pharmacy is to \_\_\_\_.

- A. medicine
- B. shoes
- C. toys
- D. flowers

6. Sell is to buy as give is to \_\_\_\_.

- A. offer
- B. hand
- C. receive
- D. spend

7. Dollar is to money as inch is to \_\_\_\_.

- A. weight
- B. length
- C. time
- D. heat

8. Coupon is to discount as ticket is to \_\_\_\_.

- A. change
- B. profit
- C. receipt
- D. entry

9. Aisle is to store as hallway is to \_\_\_\_.

- A. cart
- B. shelf
- C. school
- D. wallet

10. Spend is to save as borrow is to \_\_\_\_.

- A. owe
- B. lend
- C. count
- D. earn

11. Ruler is to length as clock is to \_\_\_\_.

- A. time
- B. weight
- C. height
- D. color

12. Pennies are to dollar as minutes are to \_\_\_\_.

- A. second

- B. clock
- C. ruler
- D. hour

**13.** Receipt is to purchase as report card is to \_\_\_\_.

- A. schoolwork
- B. recess
- C. teacher
- D. desk

**14.** Merchant is to sell as farmer is to \_\_\_\_.

- A. spend
- B. borrow
- C. grow
- D. wrap

**15.** Frugal is to wasteful as generous is to \_\_\_\_.

- A. kind
- B. giving
- C. helpful
- D. selfish

**16.** Auction is to bid as election is to \_\_\_\_.

- A. win
- B. vote
- C. count
- D. speak

17. Penny is to dime as dime is to \_\_\_\_.

- A. nickel
- B. quarter
- C. loonie
- D. toonie

18. Thrifty is to stingy as confident is to \_\_\_\_.

- A. arrogant
- B. shy
- C. brave
- D. careful

19. Debt is to owe as profit is to \_\_\_\_.

- A. lose
- B. earn
- C. borrow
- D. pay

20. Deposit is to withdraw as inhale is to \_\_\_\_.

- A. breathe
- B. smell
- C. cough
- D. exhale

21. Mom put the apples in a \_\_\_\_ before she paid for them.

- A. window
- B. pillow
- C. basket
- D. blanket

**22.** The shirt was on sale, so its \_\_\_\_\_ was lower than usual.

- A. color
- B. price
- C. size
- D. weather

**23.** Leo wants to \_\_\_\_\_ his allowance so he can buy a new bike next summer.

- A. waste
- B. lose
- C. forget
- D. save

**24.** Ana paid with a ten-dollar bill, so the cashier handed back her \_\_\_\_\_.

- A. change
- B. letter
- C. pencil
- D. shadow

**25.** Before buying the toy, Sam compared prices at two stores to find the \_\_\_\_\_ one.

- A. tallest

- B. cheapest
- C. quietest
- D. oldest

**26.** The shop sign said "Closed," so we could not \_\_\_\_ anything.

- A. buy
- B. sing
- C. bake
- D. paint

**27.** Mr. Chen is very \_\_\_\_ with his money, so he never spends it on things he does not need.

- A. wasteful
- B. silly
- C. loud
- D. careful

**28.** The lamp did not work, so Dad \_\_\_\_ it to the store for a refund.

- A. planted
- B. painted
- C. returned
- D. whispered

**29.** Nina earns money by \_\_\_\_ her neighbor's dog every afternoon.

- A. breaking
- B. losing
- C. hiding
- D. walking

**30.** The bike was too \_\_\_\_\_ for Omar to afford, so he chose a cheaper one.

- A. expensive
- B. tiny
- C. bright
- D. old

**31.** The twins \_\_\_\_\_ their birthday money so they could buy one big gift for their mom.

- A. ignored
- B. combined
- C. erased
- D. doubted

**32.** A coupon gives you a \_\_\_\_\_, so you pay less than the usual price.

- A. penalty
- B. secret
- C. discount
- D. pattern

**33.** The milk was close to its date, so the store \_\_\_\_\_ the price to sell it quickly.

- A. raised
- B. hid
- C. lowered
- D. signed

**34.** Lena could not decide which sweater to buy, so she asked for her mother's \_\_\_\_\_.

- A. receipt
- B. coupon
- C. wallet
- D. opinion

35. The store was so \_\_\_\_\_ on Saturday that we waited in a long line to pay.

- A. empty
- B. crowded
- C. silent
- D. dusty

36. The ticket price was so \_\_\_\_\_ that few students could afford to go.

- A. steep
- B. gentle
- C. narrow
- D. leafy

37. Shoppers rushed into the store at once, so the clerks felt \_\_\_\_\_ and could not help everyone.

- A. bored
- B. overwhelmed
- C. relaxed
- D. sleepy

38. Kai was \_\_\_\_\_ about the cost of the game, so he read the price tag twice before he put it in his cart.

- A. careless

- B. thrilled
- C. cautious
- D. sleepy

**39.** The clerk was \_\_\_\_\_ to return our money, but only if we brought the \_\_\_\_\_ with us.

- A. willing, receipt
- B. afraid, ladder
- C. tired, puddle
- D. unable, tuba

**40.** The market vendor was known to be \_\_\_\_\_, so she never charged more than an item was truly worth.

- A. greedy
- B. sleepy
- C. jealous
- D. honest

**41.** Which word belongs with: dime, nickel, quarter?

- A. button
- B. loonie
- C. ribbon
- D. spoon

**42.** Which word belongs with: bakery, pharmacy, bookstore?

- A. florist
- B. library
- C. school
- D. park

**43.** Which word belongs with: cashier, clerk, vendor?

- A. customer
- B. shopper
- C. buyer
- D. shopkeeper

**44.** Which word belongs with: price, cost, fee?

- A. shelf
- B. basket
- C. charge
- D. aisle

**45.** Which word belongs with: spend, pay, purchase?

- A. sell
- B. buy
- C. earn
- D. lend

**46.** Which word belongs with: ruler, scale, tape measure?

- A. hammer
- B. stapler
- C. thermometer
- D. scissors

**47.** Which word belongs with: wallet, purse, backpack?

- A. umbrella
- B. sandal
- C. blanket
- D. suitcase

**48.** Which word belongs with: dollar, euro, peso?

- A. yen
- B. meter
- C. gram
- D. liter

**49.** Which word belongs with: cheap, inexpensive, affordable?

- A. costly
- B. economical
- C. pricey
- D. luxurious

**50.** Which word belongs with: discount, sale, bargain?

- A. penalty
- B. tax
- C. markdown
- D. fee

**51.** Which word belongs with: savings, deposit, interest?

- A. harvest

- B. tunnel
- C. blanket
- D. balance

**52.** Which word belongs with: borrow, lend, owe?

- A. float
- B. whisper
- C. repay
- D. stretch

**53.** Which word belongs with: milk, juice, soda?

- A. lemonade
- B. bread
- C. cheese
- D. butter

**54.** Which word belongs with: kilogram, pound, ounce?

- A. inch
- B. liter
- C. mile
- D. gram

**55.** Which word belongs with: barter, trade, swap?

- A. hoard
- B. exchange
- C. borrow
- D. count

**56.** Which word belongs with: shelf, counter, rack?

- A. cabinet
- B. sidewalk
- C. ceiling
- D. puddle

**57.** Which word belongs with: poster, flyer, billboard?

- A. carpet
- B. banner
- C. lantern
- D. bucket

**58.** Which word belongs with: greedy, stingy, selfish?

- A. miserly
- B. generous
- C. cheerful
- D. curious

**59.** Which word belongs with: profit, income, earnings?

- A. debt
- B. expense
- C. bill
- D. wages

**60.** Two number pairs follow the same rule:  $6 : 13$  and  $9 : 16$ . Which number goes with 11 ( $11 : ?$ ) in the same way?

- A. 17
- B. 19
- C. 18
- D. 22

**61.** Two number pairs follow the same rule:  $15 : 8$  and  $21 : 14$ . Which number goes with 30 ( $30 : ?$ ) in the same way?

- A. 23
- B. 22
- C. 24
- D. 37

**62.** Two number pairs follow the same rule:  $5 : 35$  and  $8 : 56$ . Which number goes with 12 ( $12 : ?$ ) in the same way?

- A. 19
- B. 60
- C. 84
- D. 96

**63.** Two number pairs follow the same rule:  $36 : 9$  and  $48 : 12$ . Which number goes with 80 ( $80 : ?$ ) in the same way?

- A. 16
- B. 40
- C. 76
- D. 20

**64.** Two number pairs follow the same rule:  $3 : 13$  and  $8 : 23$ . Which number goes with 10 ( $10 : ?$ ) in the same way?

- A. 17
- B. 27
- C. 20
- D. 30

**65.** Two number pairs follow the same rule:  $4 : 13$  and  $7 : 22$ . Which number goes with 9 ( $9 : ?$ ) in the same way?

- A. 27
- B. 29
- C. 18
- D. 28

**66.** Two number pairs follow the same rule:  $8 : 3$  and  $14 : 6$ . Which number goes with 30 ( $30 : ?$ ) in the same way?

- A. 14
- B. 15
- C. 13
- D. 28

**67.** Two number pairs follow the same rule:  $21 : 11$  and  $30 : 14$ . Which number goes with 42 ( $42 : ?$ ) in the same way?

- A. 14
- B. 18
- C. 17
- D. 38

**68.** Two number pairs follow the same rule:  $9 : 13$  and  $14 : 23$ . Which number goes with 20 ( $20 : ?$ ) in the same way?

- A. 40
- B. 30
- C. 35
- D. 15

**69.** Two number pairs follow the same rule:  $5 : 25$  and  $7 : 49$ . Which number goes with 12 ( $12 : ?$ ) in the same way?

- A. 144
- B. 24
- C. 60
- D. 156

**70.** Two number pairs follow the same rule:  $81 : 9$  and  $25 : 5$ . Which number goes with 144 ( $144 : ?$ ) in the same way?

- A. 72
- B. 11
- C. 12
- D. 14

**71.** Two number pairs follow the same rule:  $2 : 8$  and  $4 : 64$ . Which number goes with 6 ( $6 : ?$ ) in the same way?

- A. 36
- B. 216
- C. 12
- D. 24

**72.** Two number pairs follow the same rule:  $25 : 7$  and  $38 : 11$ . Which number goes with 47 ( $47 : ?$ ) in the same way?

- A. 12
- B. 74
- C. 3
- D. 11

**73.** Two number pairs follow the same rule:  $7 : 40$  and  $11 : 64$ . Which number goes with 9 ( $9 : ?$ ) in the same way?

- A. 54
- B. 50
- C. 52
- D. 63

**74.** Two number pairs follow the same rule:  $2 : 6$  and  $3 : 12$ . Which number goes with 6 ( $6 : ?$ ) in the same way?

- A. 42
- B. 36
- C. 12
- D. 43

**75.** Two number pairs follow the same rule:  $12 : 8$  and  $15 : 10$ . Which number goes with 27 ( $27 : ?$ ) in the same way?

- A. 9
- B. 18
- C. 20
- D. 24

**76.** Two number pairs follow the same rule:  $4 : 19$  and  $7 : 40$ . Which number goes with 10 ( $10 : ?$ ) in the same way?

- A. 70
- B. 59
- C. 63
- D. 61

**77.** Two number pairs follow the same rule:  $9 : 2$  and  $21 : 6$ . Which number goes with 33 ( $33 : ?$ ) in the same way?

- A. 11
- B. 30
- C. 12
- D. 10

**78.** Two number pairs follow the same rule:  $5 : 24$  and  $8 : 63$ . Which number goes with 11 ( $11 : ?$ ) in the same way?

- A. 120
- B. 121
- C. 110
- D. 132

**79.** Two number pairs follow the same rule:  $6 : 21$  and  $10 : 55$ . Which number goes with 8 ( $8 : ?$ ) in the same way?

- A. 32
- B. 40
- C. 36
- D. 64

**80.** Solve:  $? + 59 = 133$ . What number goes in the blank?

- A. 192
- B. 74
- C. 84
- D. 64

**81.** Solve:  $142 - ? = 87$ . What number goes in the blank?

- A. 55
- B. 229
- C. 65
- D. 45

**82.** Solve:  $? - 64 = 38$ . What number goes in the blank?

- A. 26
- B. 102
- C. 112
- D. 92

**83.** Solve:  $14 \times ? = 154$ . What number goes in the blank?

- A. 140
- B. 13
- C. 12
- D. 11

**84.** Solve:  $? \div 6 = 14$ . What number goes in the blank?

- A. 20
- B. 8
- C. 84
- D. 90

**85.** Solve:  $156 \div ? = 12$ . What number goes in the blank?

- A. 144
- B. 13
- C. 26
- D. 12

**86.** Which sign makes this true?  $9 ? 14 = 126$

- A. times
- B. plus
- C. minus
- D. divided by

**87.** Solve:  $? + ? = 134$ . Both blanks hold the same number. What is it?

- A. 66
- B. 68
- C. 134
- D. 67

**88.** Solve:  $? \times ? = 169$ . Both blanks hold the same number. What is it?

- A. 12
- B. 14
- C. 13

D. 84

**89.** Which sign makes this true?  $58 \ ? \ 23 = 35$

A. plus

B. times

C. minus

D. divided by

**90.** Solve:  $5 \times ? + 13 = 73$ . What number goes in the blank?

A. 60

B. 14

C. 10

D. 12

**91.** Solve:  $? \times 4 - 17 = 51$ . What number goes in the blank?

A. 68

B. 17

C. 16

D. 18

**92.** Solve:  $? \div 3 + 9 = 21$ . What number goes in the blank?

A. 36

B. 12

C. 90

D. 40

**93.** Which sign makes this true?  $120 \ ? \ 8 = 15$

- A. plus
- B. minus
- C. divided by
- D. times

**94.** Solve:  $? + ? + ? + ? = 92$ . All four blanks hold the same number. What is it?

- A. 22
- B. 24
- C. 46
- D. 23

**95.** Solve:  $75 - 4 \times ? = 31$ . What number goes in the blank?

- A. 44
- B. 11
- C. 10
- D. 12

**96.** Solve:  $9 \times ? - 14 = 49$ . What number goes in the blank?

- A. 63
- B. 7
- C. 6
- D. 8

**97.** Each ? stands for the same number:  $? \times ? + ? = 156$ . What is the number?

- A. 12
- B. 11
- C. 13
- D. 10

**98.** Each ? stands for the same counting number:  $? \times ? - 2 \times ? = 63$ . What is the number?

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

**99.** What number comes next? 29, 37, 45, 53, ?

- A. 61
- B. 60
- C. 62
- D. 69

**100.** What number comes next? 120, 111, 102, 93, ?

- A. 83
- B. 85
- C. 84
- D. 75

**101.** What number comes next? 17, 51, 153, 459, ?

- A. 918
- B. 612
- C. 1370

D. 1377

**102.** What number comes next? 768, 384, 192, 96, ?

A. 24

B. 72

C. 48

D. 94

**103.** What number comes next? 13, 14, 16, 19, 23, ?

A. 28

B. 27

C. 29

D. 30

**104.** What number comes next? 5, 7, 11, 17, 25, ?

A. 33

B. 35

C. 37

D. 50

**105.** What number comes next? 10, 20, 15, 25, 20, ?

A. 25

B. 30

C. 35

D. 40

**106.** What number comes next? 90, 80, 85, 75, 80, ?

- A. 65
- B. 75
- C. 85
- D. 70

**107.** What number comes next? 4, 60, 7, 54, 10, 48, ?

- A. 13
- B. 42
- C. 16
- D. 12

**108.** What number comes next? 1, 30, 3, 27, 5, 24, 7, ?

- A. 9
- B. 20
- C. 21
- D. 18

**109.** What number comes next? 2187, 729, 243, 81, ?

- A. 27
- B. 54
- C. 40
- D. 29

**110.** What number comes next? 3, 7, 15, 31, ?

- A. 62
- B. 63
- C. 64
- D. 47

**111.** What number comes next? 6, 17, 50, 149, ?

- A. 447
- B. 298
- C. 446
- D. 444

**112.** What number comes next? 2, 3, 5, 9, 17, ?

- A. 31
- B. 34
- C. 29
- D. 33

**113.** What number comes next? 100, 99, 96, 91, 84, ?

- A. 74
- B. 76
- C. 70
- D. 75

**114.** What number comes next? 3, 8, 15, 24, 35, ?

- A. 47
- B. 48
- C. 49

D. 45

**115.** What number comes next? 5, 10, 8, 16, 14, 28, ?

A. 56

B. 30

C. 26

D. 24

**116.** What number comes next? 3, 120, 6, 105, 12, 90, 24, ?

A. 75

B. 48

C. 60

D. 80

**117.** What number comes next? 6, 9, 15, 27, 51, ?

A. 75

B. 102

C. 99

D. 93

**118.** What number comes next? 200, 104, 56, 32, 20, ?

A. 14

B. 10

C. 12

D. 16

**119.** In a 2 by 2 grid, the top row shows a small white circle, then a large white circle. The bottom row shows a small black triangle, then a missing figure. Which figure completes the grid?

- A. a small black triangle
- B. a large black triangle
- C. a large white triangle
- D. a large black circle

**120.** In a 2 by 2 grid, the top row shows two black dots, then three black dots. The bottom row shows four white squares, then a missing figure. Which figure completes the grid?

- A. six white squares
- B. four white squares
- C. five black squares
- D. five white squares

**121.** In a 2 by 2 grid, the top row shows an arrow pointing up, then an arrow pointing right. The bottom row shows an arrow pointing left, then a missing figure. Which figure completes the grid?

- A. an arrow pointing down
- B. an arrow pointing up
- C. an arrow pointing right
- D. an arrow pointing left

**122.** In a 2 by 2 grid, the top row shows a plain white square, then a white square with a small black circle on top of it. The bottom row shows a plain white star, then a missing figure. Which figure completes the grid?

- A. a white star with a small black circle under it
- B. a black star with a small black circle on top
- C. a white star with a small white circle on top
- D. a white star with a small black circle on top

**123.** In a 2 by 2 grid, the top row shows a circle with a dot at the top inside, then a circle with a dot at the bottom inside. The bottom row shows a square with a dot at the left inside, then a missing figure. Which figure completes the grid?

- A. a square with a dot at the right inside
- B. a square with a dot at the top inside
- C. a square with a dot at the left inside
- D. a square with a dot in the center

**124.** In a 2 by 2 grid, the top row shows a black circle, then a black circle with a white dot inside. The bottom row shows a grey square, then a missing figure. Which figure completes the grid?

- A. a grey square with a black dot inside
- B. a plain grey square
- C. a grey square with a white dot inside
- D. a white square with a white dot inside

**125.** In a 2 by 2 grid, the top row shows a square with its left half black, then a square with its right half black. The bottom row shows a circle with its top half black, then a missing figure. Which figure completes the grid?

- A. a circle with its top half black
- B. a circle with its left half black
- C. a circle with its bottom half black
- D. a circle with its right half black

**126.** In a 2 by 3 grid, the top row shows a white circle, then a grey circle, then a black circle. The bottom row shows a white square, then a grey square, then a missing figure. Which figure completes the grid?

- A. a black circle

- B. a black square
- C. a white square
- D. a striped square

**127.** In a 2 by 3 grid, the top row shows a small white star, then a medium white star, then a large white star. The bottom row shows a small white heart, then a medium white heart, then a missing figure. Which figure completes the grid?

- A. a large white heart
- B. a medium white heart
- C. a large white star
- D. a small white heart

**128.** In a 2 by 3 grid, the top row shows one dot, then two dots, then three dots. The bottom row shows three triangles, then four triangles, then a missing figure. Which figure completes the grid?

- A. six triangles
- B. four triangles
- C. five dots
- D. five triangles

**129.** In a 2 by 3 grid, the top row shows a circle with four dots, then a circle with three dots, then a circle with two dots. The bottom row shows a square with five lines, then a square with four lines, then a missing figure. Which figure completes the grid?

- A. a square with two lines
- B. a square with three lines
- C. a square with four lines
- D. a square with six lines

**130.** In a 2 by 3 grid, the top row shows an upright vertical line, then a line leaning like a forward slash, then a flat horizontal line. The bottom row shows a flat horizontal line, then a line leaning like a backslash, then a missing figure. Which figure completes the grid?

- A. a flat horizontal line
- B. a line like a forward slash
- C. an upright vertical line
- D. a line like a backslash

**131.** In a 2 by 3 grid, the top row shows a black circle inside a white square, then a white circle inside a black square, then a black circle inside a white square. The bottom row shows a black triangle inside a white diamond, then a white triangle inside a black diamond, then a missing figure. Which figure completes the grid?

- A. a black triangle inside a white diamond
- B. a white triangle inside a black diamond
- C. a black triangle inside a black diamond
- D. a white triangle inside a white diamond

**132.** In a 3 by 3 grid, the top row shows a white circle, a black square, and a grey triangle. The middle row shows a black triangle, a grey circle, and a white square. The bottom row shows a grey square, a white triangle, and a missing figure. Which figure completes the grid?

- A. a white circle
- B. a black square
- C. a grey circle
- D. a black circle

**133.** In a 3 by 3 grid, the top row shows one star, two stars, and three stars. The middle row shows two circles, three circles, and five circles. The bottom row shows four squares, three squares, and a missing figure. Which figure completes the grid?

- A. seven squares
- B. five squares
- C. six squares
- D. one square

**134.** In a 3 by 3 grid, the top row shows an arrow pointing up, right, and down. The middle row shows an arrow pointing right, down, and left. The bottom row shows an arrow pointing down, left, and a missing figure. Which figure completes the grid?

- A. an arrow pointing right
- B. an arrow pointing down
- C. an arrow pointing up
- D. an arrow pointing left

**135.** In a 3 by 3 grid, the top row shows a box with a black dot on its left side, a box with a black dot on its right side, and a box with black dots on both left and right sides. The middle row does the same with the top and bottom sides. The bottom row shows a box with a black dot in its top-left corner, a box with a black dot in its bottom-right corner, and a missing figure. Which figure completes the grid?

- A. a box with a black dot in the top-left corner only
- B. a box with black dots in the top-left and bottom-right corners
- C. a box with a black dot in the bottom-right corner only
- D. a box with black dots in the top-right and bottom-left corners

**136.** In a 3 by 3 grid, the top row shows one white star, two black stars, and three grey stars. The middle row shows one black heart, two grey hearts, and three white hearts. The bottom row shows one grey square, two white squares, and a missing figure. Which figure completes the grid?

- A. three white squares
- B. two black squares
- C. three grey squares
- D. three black squares

**137.** In a 3 by 3 grid, the top row shows a triangle, a square, and a pentagon. The middle row shows a square, a pentagon, and a hexagon. The bottom row shows a pentagon, a hexagon, and a missing figure. Which figure completes the grid?

- A. a seven-sided shape
- B. an eight-sided shape
- C. a six-sided shape
- D. a five-sided shape

**138.** In a 3 by 3 grid, the top row shows a white arrow, a grey arrow, and a black arrow, all pointing up. The middle row shows a white arrow, a grey arrow, and a black arrow, all pointing right. The bottom row shows a white arrow and a grey arrow, both pointing down, and a missing figure. Which figure completes the grid?

- A. a black arrow pointing up
- B. a grey arrow pointing down
- C. a black arrow pointing right
- D. a black arrow pointing down

**139.** A square sheet of paper is folded in half once. Four holes are punched through the folded paper, away from the fold. How many holes does the opened sheet have?

- A. 4 holes
- B. 8 holes
- C. 6 holes
- D. 16 holes

**140.** A rectangular sheet is folded in half, and then folded in half again, making four layers. One hole is punched through all four layers, away from the folds. How many holes does the opened sheet have?

- A. 1 hole
- B. 2 holes

- C. 4 holes
- D. 8 holes

**141.** A square sheet is folded in half so its left edge meets its right edge. One hole is punched in the exact middle of the folded sheet. Which picture shows the opened sheet?

- A. one hole in the exact center
- B. two holes in the middle row
- C. two holes in the middle column
- D. two holes in the left half

**142.** A sheet is folded like a letter into three equal parts, making three layers. Three holes are punched through all the layers, away from the folds. How many holes does the opened sheet have?

- A. 9 holes
- B. 3 holes
- C. 6 holes
- D. 12 holes

**143.** A square sheet is folded in half by bringing the bottom edge up to the top edge, so the fold lies along the bottom. One hole is punched near the top-left corner of the folded sheet. Which picture shows the opened sheet?

- A. a high left hole and a high right hole
- B. a high left hole and a low right hole
- C. a high left hole and a middle left hole
- D. a high left hole and a low left hole

**144.** A square sheet is folded in half, then in half again, making four layers. Three holes are punched through all the layers, away from the folds. How many holes does the opened sheet have?

- A. 3 holes
- B. 6 holes
- C. 12 holes
- D. 16 holes

**145.** A long sheet is folded like a letter into three equal vertical strips, making three layers. One hole is punched in the middle of the folded strip. Which picture shows the opened sheet?

- A. one hole in the exact center of the sheet
- B. three holes in a column, one above the other
- C. two holes near the left and right edges
- D. three holes in a straight row across the middle

**146.** A square sheet is folded in half three times, each time in half again, making eight layers. Two holes are punched through all the layers, away from the folds. How many holes does the opened sheet have?

- A. 8 holes
- B. 10 holes
- C. 16 holes
- D. 12 holes

**147.** A square sheet is folded in half from top to bottom, then in half again from left to right. One hole is punched close to the corner of the small square that was a corner of the original sheet. Which picture shows the opened sheet?

- A. four holes close to the center, forming a small square
- B. four holes, one near each corner of the sheet
- C. one hole near a single corner
- D. two holes along the top edge

**148.** A sheet is folded like a letter into three equal parts, then folded in half once more, making six layers. Two holes are punched through all the layers, away from the folds. How many holes does the opened sheet have?

- A. 12 holes
- B. 6 holes
- C. 8 holes
- D. 18 holes

**149.** A square sheet is folded in half, then in half again from side to side, so the small square has one corner at the center of the original sheet. One hole is punched close to that center corner. Which picture shows the opened sheet?

- A. four holes close to the center, forming a small square
- B. four holes, one near each corner of the sheet
- C. one hole in the exact center
- D. four holes in a straight row down the middle

**150.** A square sheet is folded corner to corner along a diagonal, making a triangle. One hole is punched close to the right-angle corner of the folded triangle. Which picture shows the opened sheet?

- A. one hole near a single corner
- B. two holes near two opposite corners
- C. four holes, one near each corner
- D. two holes near the center of the sheet

**151.** A square sheet is folded in half from top to bottom, then in half again from left to right. One hole is punched in the middle of the small folded square. Which picture shows the opened sheet?

- A. four holes in a straight row across the middle
- B. one hole in the exact center of the sheet
- C. two holes, one in the left half and one in the right half

D. four holes, one in the middle of each quarter

**152.** A square sheet is folded in half twice, making four layers. Six holes are punched through all the layers, away from the folds. How many holes does the opened sheet have?

- A. 12 holes
- B. 18 holes
- C. 24 holes
- D. 10 holes

**153.** A square sheet is folded in half so its left edge meets its right edge, with the fold at the center. Two holes are punched close to the fold, one near the top edge and one near the bottom edge. Which picture shows the opened sheet?

- A. four holes, one near each corner
- B. two holes on the center line
- C. two pairs of holes beside the center line
- D. four holes in a row down the center

**154.** A long thin strip is folded in half end to end, then in half end to end again, making four layers. One hole is punched in the middle of the folded stack. Which picture shows the opened strip?

- A. four holes with equal gaps along the strip
- B. four holes bunched together in the middle
- C. two holes, one near each end
- D. three holes with equal gaps along the strip

**155.** A square sheet is folded in half so its left edge meets its right edge. Near the open edges, a round hole is punched high up and a square hole is punched low down. Which picture shows the opened sheet?

- A. a round hole high on the left and a square hole low on the right

- B. round holes high on both sides, square holes low on both sides
- C. round holes low on both sides, square holes high on both sides
- D. a round hole high on the left and a square hole low on the left

**156.** A square sheet is folded in half twice, making four layers. Five holes are punched through all the layers, away from the folds. How many holes does the opened sheet have?

- A. 10 holes
- B. 15 holes
- C. 9 holes
- D. 20 holes

**157.** A square sheet is folded in half from top to bottom, then in half again from left to right. Two holes are punched, one close to the corner of the small square that was the sheet's center and one close to the corner that was a corner of the sheet. Which picture shows the opened sheet?

- A. four holes at the center
- B. four holes at the corners
- C. eight holes, center and corners
- D. eight holes in two rows

**158.** Three figures are shown. The first is a striped circle. The second is a striped square. The third is a striped triangle. Which figure is most like the first three?

- A. a striped star
- B. a black star
- C. a white star
- D. a grey star

**159.** Three figures are shown. The first is a large white circle. The second is a large black square. The third is a large grey triangle. Which figure is most like the first three?

- A. a small striped star
- B. a large striped star
- C. a tiny striped star
- D. a very small striped star

**160.** Three figures are shown. The first is two white circles. The second is two black squares. The third is two grey stars. Which figure is most like the first three?

- A. two striped hearts
- B. one striped heart
- C. three striped hearts
- D. four striped hearts

**161.** Three figures are shown. The first is a white square. The second is a black rectangle. The third is a grey trapezoid. Which figure is most like the first three?

- A. a striped pentagon
- B. a striped triangle
- C. a striped hexagon
- D. a striped diamond

**162.** Three figures are shown. The first is a white circle in the top-left corner of a box. The second is a black square in the top-left corner of a box. The third is a grey triangle in the top-left corner of a box. Which figure is most like the first three?

- A. a striped star in the top-right corner
- B. a striped star in the bottom-left corner
- C. a striped star in the top-left corner
- D. a striped star in the bottom-right corner

**163.** Three figures are shown. The first is a white square with a black dot near the top inside. The second is a black circle with a white dot near the top inside. The third is a grey triangle with a black dot near the top inside. Which figure is most like the first three?

- A. a striped hexagon with a dot near the bottom inside
- B. a striped hexagon with a dot near the left inside
- C. a striped hexagon with a dot in the middle inside
- D. a striped hexagon with a dot near the top inside

**164.** Three figures are shown. The first is a circle filled with wavy lines. The second is a square filled with wavy lines. The third is a triangle filled with wavy lines. Which figure is most like the first three?

- A. a star filled with straight lines
- B. a star filled with wavy lines
- C. a star filled with small dots
- D. a star filled with small crosses

**165.** Three figures are shown. The first is a white arrow pointing up. The second is a black triangle with its tip pointing up. The third is a grey rocket with its nose pointing up. Which figure is most like the first three?

- A. a striped arrow pointing down
- B. a striped arrow pointing left
- C. a striped arrow pointing right
- D. a striped arrow pointing up

**166.** Three figures are shown. The first is a white circle. The second is a black oval. The third is a grey crescent. Which figure is most like the first three?

- A. a striped square
- B. a striped triangle
- C. a striped ring

D. a striped rectangle

**167.** Three figures are shown. The first is a tall thin white rectangle. The second is a tall thin black oval. The third is a tall thin grey triangle. Which figure is most like the first three?

- A. a tall thin striped diamond
- B. a short wide striped diamond
- C. a striped diamond as wide as tall
- D. a tiny round striped diamond

**168.** Three figures are shown. The first is four squares in a row, one of them black. The second is five circles in a row, one of them black. The third is six triangles in a row, one of them black. Which figure is most like the first three?

- A. seven stars in a row, two of them black
- B. seven stars in a row, one of them black
- C. seven stars in a row, none of them black
- D. seven stars in a row, three of them black

**169.** Three figures are shown. The first is two black triangles and one white triangle. The second is two black circles and one white circle. The third is two black squares and one white square. Which figure is most like the first three?

- A. one black star and two white stars
- B. two black stars and one white star
- C. three black stars
- D. two black stars and one white circle

**170.** Three figures are shown. The first is a small black square inside a large white circle. The second is a small black circle inside a large white square. The third is a small black triangle inside a large white pentagon. Which figure is most like the first three?

- A. a small black heart inside a large white diamond
- B. a small white heart inside a large black diamond
- C. a large black heart inside a small white diamond
- D. a small black heart beside a large white diamond

**171.** Three figures are shown. The first is a white circle touching a black circle. The second is a white square touching a black square. The third is a white star touching a black star. Which figure is most like the first three?

- A. a white heart apart from a black heart
- B. two white hearts touching
- C. a white heart touching a black star
- D. a white heart touching a black heart

**172.** Three figures are shown. The first is a circle cut into four equal pieces, one piece black. The second is a square cut into four equal pieces, one piece black. The third is a rectangle cut into four equal pieces, one piece black. Which figure is most like the first three?

- A. an oval cut into four equal pieces, two pieces black
- B. an oval cut into two equal pieces, one piece black
- C. an oval cut into four equal pieces, one piece black
- D. an oval cut into four equal pieces, all white

**173.** Three figures are shown. The first is three circles, each one inside the next. The second is three squares, each one inside the next. The third is three triangles, each one inside the next. Which figure is most like the first three?

- A. two stars, one inside the other
- B. three stars, each one inside the next
- C. four stars, each one inside the next
- D. three stars side by side

**174.** Three figures are shown. The first is a square with all four sides equal. The second is a triangle with all three sides equal. The third is a hexagon with all six sides equal. Which figure is most like the first three?

- A. a pentagon with five sides of different lengths
- B. a long thin rectangle
- C. a tall triangle with unequal sides
- D. a pentagon with all five sides equal

**175.** Three figures are shown. The first is four squares in a row colored black, white, black, white. The second is four circles in a row colored black, white, black, white. The third is four triangles in a row colored black, white, black, white. Which figure is most like the first three?

- A. four stars colored black, white, black, white
- B. four stars colored black, black, white, white
- C. four stars colored black, white, white, black
- D. four stars colored black, white, black, black

**176.** Three figures are shown. The first is a triangle with a dot at each corner. The second is a square with a dot at each corner. The third is a pentagon with a dot at each corner. Which figure is most like the first three?

- A. a hexagon with a dot at one corner
- B. a hexagon with one dot in the middle
- C. a hexagon with a dot at each corner
- D. a hexagon with a dot at every other corner

## Practice Exam 15: Answer Key and Explanations

**1. B** — A coin is kept in a wallet, and a book is kept on a shelf, so each pair names an item and the place built to hold it. A cloud floats in the sky, a spoon is used for eating, and a river carries water. None of them is a place for storing books.

- 2. A** — A cashier works at the checkout, and a teacher works in a classroom, so each pair links a worker with the place where the job is done. A basket, a receipt, and a coupon are things used while shopping, but none of them is the place where a teacher works.
- 3. C** — Cold and hot are opposites, and cheap and costly are opposites too, since one means a low price and the other means a high price. Small, quick, and loud are describing words, but none of them is the opposite of cheap, because they tell about size, speed, and sound instead of price.
- 4. D** — A wallet is made to carry money, and a shopping basket is made to carry groceries, so each pair names a container and what goes inside it. A cashier is a person, an aisle is a walkway between shelves, and a price is a number on a tag. None of them can be carried in a basket.
- 5. A** — A bakery is a shop that sells bread, and a pharmacy is a shop that sells medicine, so each pair links a store with its main product. Shoes, toys, and flowers are all sold in shops, but they are sold in a shoe store, a toy store, and a flower shop instead of a pharmacy.
- 6. C** — A seller hands something over and a buyer takes it, so sell and buy are partner actions that go in opposite directions. Give works the same way with receive, because one person gives and another person receives. Offer and hand mean almost the same as give, and spend is about using money, so those words do not form the partner.
- 7. B** — A dollar is a unit used to measure an amount of money, and an inch is a unit used to measure length. Each pair names a unit and the thing it measures. Weight is measured in pounds, time in minutes, and heat in degrees, so none of those goes with an inch, which tells how long something is.
- 8. D** — A coupon gives its holder a discount, and a ticket gives its holder entry. Each item is a small paper that earns you a special right. Change is leftover money, profit is money a store keeps, and a receipt only records a sale, so none of them is what a ticket gives you.
- 9. C** — An aisle is a path for walking inside a store, and a hallway is a path for walking inside a school. Both are narrow walkways within a larger building. A cart, a shelf, and a wallet are objects instead of buildings, so none of them can hold a hallway the way a school does.
- 10. B** — Spend and save are opposite actions, since one uses money and the other keeps it. Borrow and lend are opposites too, because one person takes something for a while and the other person lets it go. Owe describes the result of borrowing, not its opposite, and count and earn have nothing to do with giving something out.
- 11. A** — A ruler is a tool that measures length, and a clock is a tool that shows time. Each pair links a measuring tool with the thing it measures. A clock does not show weight, height, or color, because those need a scale, a ruler, and your own eyes, so time is the only choice that matches the link.
- 12. D** — One hundred pennies make a dollar, and sixty minutes make an hour, so each pair shows small parts that add up to one larger unit. A second is smaller than a minute, a clock only shows the time, and a ruler measures length. Only hour is a bigger unit that is built from minutes.

**13. A** — A receipt is a paper record of what a shopper bought, and a report card is a paper record of a student's schoolwork. Each pair links a record with the thing it records. A teacher writes the report and a desk holds the student, while recess is a break, so none of them is something a report card records.

**14. C** — A merchant's main job is to sell goods, and a farmer's main job is to grow crops. Each pair links a worker with the action that defines the job. Farmers may spend, borrow, or wrap things sometimes, but those actions are not what makes a person a farmer, so only grow matches the merchant and sell link.

**15. D** — Frugal and wasteful are opposites, since a frugal person uses money carefully and a wasteful person does not. Generous and selfish are opposites in the same way, because one person shares freely and the other keeps things for himself. Kind, giving, and helpful all mean nearly the same as generous, so they break the opposite pattern.

**16. B** — At an auction people make a bid on an item, and in an election people cast a vote to choose a leader. Each pair links an event with what people do to take part. Win, count, and speak can happen around an election, but they are not the choice each person makes, so vote is the best match.

**17. C** — A dime is worth 10 cents, which is ten times a penny. Ten times a dime is 100 cents, or one dollar, which is the value of a loonie. A nickel is worth 5 cents, a quarter is worth 25 cents, and a toonie is worth two dollars, so none of them is ten times a dime.

**18. A** — Thrifty is a good way to handle money, and stingy is the unpleasant extreme of it. Confident is a good way to feel about yourself, and arrogant is the unpleasant extreme. Shy is the opposite of confident, and brave and careful are other good traits, so only arrogant matches the same step from good to too much.

**19. B** — A debt is money that a person owes, and a profit is money that a business earns. Each pair links a noun with the verb that describes how you hold that money. Lose, borrow, and pay all move money away from a person, which is the opposite of keeping a profit, so earn is the only good match.

**20. D** — To deposit is to put money into a bank, and to withdraw is to take it out, so they are opposites. To inhale is to breathe in, and to exhale is to breathe out. Breathe includes both actions, and smell and cough only use the breath, so exhale is the true opposite of inhale.

**21. C** — Shoppers carry food in a basket until they pay, so basket makes sense. The clue is that Mom put the apples somewhere before paying. A window, a pillow, and a blanket are not used to hold groceries in a store, so each choice makes the sentence silly even though the grammar still works.

**22. B** — On sale means the cost is reduced, so the thing that is lower than usual is the price. Color and size describe how the shirt looks or fits, and the weather has nothing to do with the shirt, so none of them can be lower because of a sale. The clue words are on sale and lower than usual.

**23. D** — To buy a bike next summer, Leo must keep his money until he has enough, and that means he wants to save it. The clue is so he can buy a new bike. Waste, lose, and forget all mean the money would be gone before summer, so none of them helps him reach his goal.

**24. A** — When a shopper pays with a bill larger than the price, the cashier returns the extra money, which is called change. The clue is that Ana paid with a ten-dollar bill. A letter, a pencil, and a shadow are not given back at a checkout, so they do not complete the sentence in a sensible way.

**25. B** — Comparing prices is a way to look for the lowest cost, so Sam wants the cheapest toy of the two. The clue is compared prices. Tallest, quietest, and oldest describe height, sound, and age, which prices do not show, so those words do not fit what Sam is doing at either store.

**26. A** — A closed shop is not open for business, so shoppers cannot buy anything inside. The sign is the clue. People could still sing, bake, or paint somewhere else, and a closed sign does not stop those activities, so only buy is tied to the shop being closed to customers, who come to spend money.

**27. D** — Someone who never spends money on needless things is being careful with it. The clue is never spends it on things he does not need. Wasteful is the opposite meaning, because wasteful people spend freely, and silly and loud describe behavior that has no link to how a person handles money.

**28. C** — A broken item that is taken back to the store for a refund has been returned. The clues are did not work and refund. Planted, painted, and whispered are real actions, but none of them can be done to a lamp as a way of taking it to a store, so only returned fits the sentence.

**29. D** — A job that earns money and takes place every afternoon with a neighbor's dog is walking it. The clue is earns money. Breaking, losing, and hiding the dog would be bad behavior that no neighbor would pay for, so those words cannot be a way to earn money from the dog's owner.

**30. A** — Omar could not afford the bike and picked a cheaper one, so the first bike cost too much, which means it was expensive. The clue is cheaper. Tiny, bright, and old describe size, color, and age, and none of them explains why Omar could not pay for the first bike.

**31. B** — To buy one big gift together, the twins put their money into one pile, so they combined it. The clue is one big gift. Ignored, erased, and doubted mean the twins did not use the money, which would make buying the gift impossible, so only combined fits the sentence well.

**32. C** — A coupon lowers what you pay, and the word for that lower amount is a discount. The clue is pay less than the usual price. A penalty makes you pay more, a secret is something hidden, and a pattern is a design, so none of them describes what a coupon gives a shopper.

**33. C** — A store wants to sell food that will soon spoil, so it lowers the price to attract buyers. The clue is sell it quickly. Raising the price would scare shoppers away, and hiding or signing the price does not help sell milk, so lowered is the only choice that makes sense.

**34. D** — When you cannot decide, you ask someone what they think, and that is their opinion. The clue is could not decide, which means she needs help choosing. A receipt, a coupon, and a wallet are shopping items, but none of them can be asked for or given as a view about which sweater looks better.

**35. B** — A long line to pay means many shoppers were in the store at once, so it was crowded. The clue is waited in a long line. Empty and silent mean few or no people, which would not cause a line, and dusty describes dirt, not how many people are present.

**36. A** — A price that few people can pay is very high, and steep is a word used for a high price as well as a sharp hill. The clue is few students could afford. Gentle, narrow, and leafy describe slopes, paths, and trees, so none of them tells how much money the ticket costs.

**37. B** — Too many customers at once is more than a few clerks can handle, so they feel overwhelmed. The clue is could not help everyone. Bored and relaxed describe people with too little to do, and sleepy describes tiredness without a reason, so those words do not match a rush of shoppers.

**38. C** — Reading a price tag twice shows that Kai was being careful and watchful about spending, which is the meaning of cautious. The clue is read the price tag twice. Careless is the opposite, because careless people hurry without checking, and thrilled and sleepy describe feelings that would not make a person double-check a number.

**39. A** — A clerk who is willing to give money back usually wants proof of the sale, and that proof is the receipt. The words but only if tell us the clerk set a condition. Afraid, tired, and unable do not fit that kind of offer, and a ladder, a puddle, and a tuba are not proof of a purchase.

**40. D** — Someone who never charges more than an item is worth is telling the truth about her prices, so she is honest. The clue is never charged more than truly worth. Greedy is the opposite, because greedy sellers want extra money, and sleepy and jealous describe feelings that say nothing about fair prices.

**41. B** — Dime, nickel, and quarter are all Canadian coins used as money. A loonie is also a coin, worth one dollar. A button, a ribbon, and a spoon are not money, even though a button is small and round like a coin, so none of them belongs in this group of coins.

**42. A** — Bakery, pharmacy, and bookstore are all shops where customers buy goods. A florist is a shop that sells flowers, so it belongs. A library lends books instead of selling them, and a school and a park are not stores at all, so those words belong to a different group of places.

**43. D** — Cashier, clerk, and vendor are all people who work at selling things to others. A shopkeeper also runs a store and sells goods to customers every day. Customer, shopper, and buyer are the people on the other side, who pay money for items, so they form the opposite group of the sellers.

**44. C** — Price, cost, and fee are all words for the amount of money asked for something. A charge is also an amount of money you must pay. A shelf, a basket, and an aisle are parts of a store or things used while shopping, but none of them names an amount of money.

**45. B** — Spend, pay, and purchase are actions a shopper does when giving money to get something. Buy is another one of those actions. Sell, earn, and lend are done by the person receiving or giving away the money instead, so they point the opposite way and do not belong with the shopper's actions.

**46. C** — Ruler, scale, and tape measure are all tools that measure something, such as length or weight. A thermometer is a tool that measures how hot or cold something is, so it belongs. A hammer, a stapler, and scissors are tools for hitting, joining, or cutting, but none of them gives a measurement.

**47. D** — Wallet, purse, and backpack are all things people use to carry belongings from place to place. A suitcase is also made for carrying clothes and other belongings on a trip. An umbrella, a sandal, and a blanket are things people use or wear, but none of them is designed to carry things inside.

**48. A** — Dollar, euro, and peso are all names of money used in different countries. The yen is the money of Japan, so it belongs. A meter, a gram, and a liter are units for measuring length, mass, and liquid, so they measure things instead of paying for them, and a store would not accept them as money.

**49. B** — Cheap, inexpensive, and affordable all describe things that cost little money. Economical also means low in cost or careful with money, so it belongs. Costly, pricey, and luxurious describe items that cost a lot, which is the opposite meaning, so they would break the group, because they point to high prices instead of low prices.

**50. C** — Discount, sale, and bargain are all words for a lower price that helps a shopper. A markdown is a price that a store has cut lower, so it fits. A penalty, a tax, and a fee all make a person pay more money, so they belong to the opposite group.

**51. D** — Savings, deposit, and interest are all words used when talking about money in a bank account. A balance is the amount of money in the account, so it belongs. A harvest, a tunnel, and a blanket have nothing to do with banking, so none of them fits this group about money kept safely at a bank.

**52. C** — Borrow, lend, and owe are all words about money or things that are given for a while and must come back. Repay means to give back what you owe, so it fits. Float, whisper, and stretch are everyday actions that have nothing to do with debts or giving money back.

**53. A** — Milk, juice, and soda are all drinks that you pour into a glass. Lemonade is a drink too, so it belongs. Bread, cheese, and butter are foods found in the same grocery store, but they are solid or soft foods that you chew and eat instead of drink, so they are not beverages.

**54. D** — Kilogram, pound, and ounce are all units for measuring weight. A gram is also a unit of weight, so it belongs. An inch and a mile measure length, and a liter measures liquid, so each of them is a unit for a different kind of measurement and cannot be used to weigh things.

**55. B** — Barter, trade, and swap all mean giving one thing to get another thing back. Exchange means exactly that, so it belongs. Hoard means to keep things, borrow means to take for a while, and count means to find a total, so none of them describes trading one item for another.

**56. A** — Shelf, counter, and rack are all pieces of store furniture that hold or show goods for sale. A cabinet is also furniture that stores items. A sidewalk, a ceiling, and a puddle are parts of the outdoors or of a building, but none of them is furniture used to hold things.

**57. B** — Poster, flyer, and billboard are all printed signs that advertise something to people. A banner is a long sign that also shows a message, so it fits. A carpet, a lantern, and a bucket are household objects, and none of them is made to display an advertisement for a store or a sale.

**58. A** — Greedy, stingy, and selfish all describe a person who wants to keep too much for himself. Miserly means the same, because a miser hates to spend or share. Generous is the opposite, and cheerful

and curious describe moods and interests that say nothing about how a person treats money, so they do not match.

**59. D** — Profit, income, and earnings are all money that comes in to a person or a business. Wages are the money paid to a worker, so they fit. A debt, an expense, and a bill are all money that must be paid out, so they belong to the opposite group of money that goes out.

**60. C** — In  $6 : 13$  and  $9 : 16$ , the second number is 7 more than the first, since 6 plus 7 is 13 and 9 plus 7 is 16. Adding 7 to 11 gives 18. The choice 17 adds only 6, the choice 19 adds 8, and the choice 22 doubles 11, which fits neither given pair.

**61. A** — In  $15 : 8$  and  $21 : 14$ , the second number is 7 less than the first, since 15 minus 7 is 8 and 21 minus 7 is 14. Subtracting 7 from 30 gives 23. The choice 22 subtracts 8, the choice 24 subtracts 6, and the choice 37 adds 7, which goes the wrong way.

**62. C** — In  $5 : 35$  and  $8 : 56$ , the second number is 7 times the first, since 5 times 7 is 35 and 8 times 7 is 56. Multiplying 12 by 7 gives 84. The choice 19 adds 7 instead of multiplying, the choice 60 is 12 times 5, and the choice 96 is 12 times 8.

**63. D** — In  $36 : 9$  and  $48 : 12$ , the second number is the first divided by 4, since 36 divided by 4 is 9 and 48 divided by 4 is 12. Dividing 80 by 4 gives 20. The choice 16 divides by 5, the choice 40 divides by 2, and the choice 76 subtracts 4.

**64. B** — In  $3 : 13$  and  $8 : 23$ , the first number is doubled and then 7 is added: 3 times 2 plus 7 is 13, and 8 times 2 plus 7 is 23. For 10, doubling gives 20, and adding 7 gives 27. The choice 20 forgets to add 7, and the choice 17 forgets to double.

**65. D** — In  $4 : 13$  and  $7 : 22$ , the first number is tripled and then 1 is added: 4 times 3 plus 1 is 13, and 7 times 3 plus 1 is 22. For 9, tripling gives 27, and adding 1 gives 28. The choice 27 forgets to add 1, and the choice 29 adds 2.

**66. A** — In  $8 : 3$  and  $14 : 6$ , the first number is halved and then 1 is taken away: half of 8 is 4, minus 1 is 3, and half of 14 is 7, minus 1 is 6. Half of 30 is 15, and 15 minus 1 is 14. The choice 15 forgets to subtract, and 13 subtracts 2.

**67. B** — In  $21 : 11$  and  $30 : 14$ , the first number is divided by 3 and then 4 is added: 21 divided by 3 plus 4 is 11, and 30 divided by 3 plus 4 is 14. For 42, dividing gives 14, and adding 4 gives 18. The choice 14 forgets to add 4.

**68. C** — In  $9 : 13$  and  $14 : 23$ , the first number is doubled and then 5 is subtracted: 9 times 2 minus 5 is 13, and 14 times 2 minus 5 is 23. For 20, doubling gives 40, and subtracting 5 gives 35. The choice 40 forgets to subtract, 30 subtracts 10, and 15 subtracts without doubling.

**69. A** — In  $5 : 25$  and  $7 : 49$ , the second number is the first multiplied by itself, since 5 times 5 is 25 and 7 times 7 is 49. Twelve times 12 is 144. The choice 24 only doubles 12, the choice 60 multiplies by 5, and the choice 156 adds 12 to 144.

**70. C** — In  $81 : 9$  and  $25 : 5$ , the second number is the square root of the first, the number that multiplied by itself gives it: 9 times 9 is 81, and 5 times 5 is 25. The square root of 144 is 12. The choice 72 only halves 144, and 11 and 14 give 121 and 196.

**71. B** — In  $2 : 8$  and  $4 : 64$ , the second number is the first multiplied by itself three times: 2 times 2 times 2 is 8, and 4 times 4 times 4 is 64. Six times 6 times 6 is 216. The choice 36 multiplies only twice, 12 doubles 6, and 24 multiplies 6 by 4.

**72. D** — In  $25 : 7$  and  $38 : 11$ , the second number is the sum of the digits of the first, since 2 plus 5 is 7 and 3 plus 8 is 11. The digits of 47 are 4 and 7, which add to 11. The choice 12 adds wrongly, the choice 74 only reverses the digits, and 3 subtracts them.

**73. C** — In  $7 : 40$  and  $11 : 64$ , the first number is multiplied by 6 and then 2 is subtracted: 7 times 6 minus 2 is 40, and 11 times 6 minus 2 is 64. For 9, 54 minus 2 is 52. The choice 54 forgets to subtract, 50 subtracts 4, and 63 multiplies by 7.

**74. A** — In  $2 : 6$  and  $3 : 12$ , the second number is the first multiplied by the next counting number, since 2 times 3 is 6 and 3 times 4 is 12. For 6, the next number is 7, and 6 times 7 is 42. The choice 36 multiplies 6 by itself, and 43 is one too many.

**75. B** — In  $12 : 8$  and  $15 : 10$ , the second number is two thirds of the first: a third of 12 is 4, doubled is 8, and a third of 15 is 5, doubled is 10. A third of 27 is 9, and doubled is 18. The choice 9 stops at one third, 20 subtracts 7, and 24 subtracts 3.

**76. D** — In  $4 : 19$  and  $7 : 40$ , the first number is multiplied by 7 and then 9 is subtracted: 4 times 7 minus 9 is 19, and 7 times 7 minus 9 is 40. For 10, 70 minus 9 is 61. The choice 70 forgets to subtract, 59 subtracts 11, and 63 is 9 times 7.

**77. D** — In  $9 : 2$  and  $21 : 6$ , the first number has 3 taken away and the result is divided by 3: 6 divided by 3 is 2, and 18 divided by 3 is 6. For 33, 30 divided by 3 is 10. The choice 11 skips the subtraction, 30 skips the division, and 12 uses neither step.

**78. A** — In  $5 : 24$  and  $8 : 63$ , the second number is the first multiplied by itself, minus 1: 5 times 5 minus 1 is 24, and 8 times 8 minus 1 is 63. For 11, 121 minus 1 is 120. The choice 121 forgets to subtract, 110 multiplies 11 by 10, and 132 multiplies 11 by 12.

**79. C** — In  $6 : 21$  and  $10 : 55$ , the second number is the first times the next counting number, divided by 2: 6 times 7 over 2 is 21, and 10 times 11 over 2 is 55. For 8, 8 times 9 over 2 is 36. The choice 64 is 8 times 8, which skips the division.

**80. B** — The missing number plus 59 makes 133, so subtract 59 from 133 to find it. The answer is 74, and 74 plus 59 checks to 133. The choice 192 adds the two numbers instead of undoing the addition. The choice 84 is 10 too big, and 64 is 10 too small, so neither makes 133.

**81. A** — The blank is what is taken away from 142 to leave 87, so find it by subtracting 87 from 142, which gives 55. Checking, 142 minus 55 is 87. The choice 229 adds 142 and 87, which is the wrong operation. The choice 65 is 10 too big, and 45 is 10 too small, so neither works.

**82. B** — A number was reduced by 64 to leave 38, so undo it by adding 64 to 38, which gives 102. Checking, 102 minus 64 is 38. The choice 26 subtracts 38 from 64 in the wrong order, 112 is 10 too big, and 92 is 10 too small, so none of those leaves 38 after taking away 64.

**83. D** — Fourteen times the missing number is 154, so divide 154 by 14 to find it, which gives 11. Checking, 14 times 11 is 154. The choice 140 subtracts 14 from 154 instead of dividing. The choice 12 gives 168 when multiplied by 14, and 13 gives 182, so neither makes 154.

**84. C** — A number divided by 6 gives 14, so undo the division by multiplying 14 by 6, which gives 84. Checking, 84 divided by 6 is 14. The choice 20 adds 6 to 14, the choice 8 subtracts 6 from 14, and the choice 90 is 6 times 15, which is one group too many.

**85. B** — The question asks how many groups of the missing number fit into 156 to make 12, so divide 156 by 12, which gives 13. Checking, 156 divided by 13 is 12. The choice 144 subtracts 12 from 156, the choice 26 doubles 13, and the choice 12 repeats a number from the equation, so none works.

**86. A** — Nine and 14 combine to make 126, a number far larger than either, so the sign must be times, since 9 times 14 is 126. Plus gives only 23, minus gives only 5, and divided by gives a number smaller than 1. Only multiplication reaches 126, so the other signs fail.

**87. D** — Two equal numbers add to 134, so each one is half of 134, which is 67. Checking, 67 plus 67 is 134. The choice 66 gives 132 when doubled, the choice 68 gives 136, and the choice 134 gives 268, so each of those misses the total. Only 67 uses the same number twice to make 134.

**88. C** — The same number times itself equals 169, so look for a number that multiplied by itself gives 169. Thirteen times 13 is 169. The choice 12 gives 144, the choice 14 gives 196, and the choice 84 is about half of 169, so none of them fills both blanks to make 169.

**89. C** — Fifty-eight and 23 combine to make 35, a number smaller than 58 but not a tiny fraction, so the sign must be minus, since 58 minus 23 is 35. Plus gives 81, times gives 1334, and divided by gives about 2.5. Only subtraction leaves exactly 35, so the other signs fail.

**90. D** — Work backward. First take away the 13 that was added, so 73 minus 13 is 60. Then divide by 5, so 60 divided by 5 is 12. Checking, 5 times 12 is 60, and 60 plus 13 is 73. The choice 60 stops before dividing, and 14 and 10 give totals of 83 and 63.

**91. B** — Work backward. First add 17 to the 51, since 17 was taken away, which gives 68. Then divide by 4, so 68 divided by 4 is 17. Checking, 17 times 4 is 68, and 68 minus 17 is 51. The choice 68 stops before dividing, and 16 and 18 give 47 and 55.

**92. A** — Work backward. First take away the 9 that was added, so 21 minus 9 is 12. Then undo the division by 3 by multiplying, so 12 times 3 is 36. Checking, 36 divided by 3 is 12, and 12 plus 9 is 21. The choice 12 stops early, and 90 would give a total of 39.

**93. C** — One hundred twenty divided into groups of 8 makes 15 groups, so the sign is divided by, since 120 divided by 8 is 15. The answer 15 is much smaller than 120, which points to shrinking. Plus gives 128, minus gives 112, and times gives 960, so none of those equals 15.

**94. D** — Four equal numbers add to 92, so divide 92 by 4 to find each one, which gives 23. Checking, 23 plus 23 plus 23 plus 23 is 92. The choice 22 adds up to 88, the choice 24 adds up to 96, and the choice 46 is half of 92, which would be the answer for only two blanks.

**95. B** — Multiply first, then subtract. The 4 times the blank was taken from 75 to leave 31, so it equals 75 minus 31, which is 44. Then 44 divided by 4 is 11. Checking, 4 times 11 is 44, and 75 minus 44 is 31. The choice 44 stops before dividing, and 10 and 12 give 35 and 27.

**96. B** — Work backward. First add 14 to the 49, since 14 was taken away, which gives 63. Then divide by 9, so 63 divided by 9 is 7. Checking, 9 times 7 is 63, and 63 minus 14 is 49. The choice 63 stops before dividing, and 6 and 8 give totals of 40 and 58.

**97. A** — Try numbers until the same one fits all three blanks. Twelve times 12 is 144, and 144 plus 12 is 156, so 12 works. The choice 11 gives 121 plus 11, which is 132. The choice 13 gives 169 plus 13, which is 182. The choice 10 gives 100 plus 10, which is 110, so each of those misses 156.

**98. D** — Try counting numbers until the same one fits all three blanks. Nine times 9 is 81, and 2 times 9 is 18, so 81 minus 18 is 63 and 9 works. The choice 7 gives 49 minus 14, which is 35. The choice 8 gives 64 minus 16, which is 48. The choice 10 gives 80.

**99. A** — Each number is 8 more than the one before it, since 29 plus 8 is 37, then 45, then 53. Adding 8 to 53 gives 61. The choice 60 adds only 7, and 62 adds 9, so both break the steady pattern. The choice 69 adds 16, which is two steps at once and skips a number.

**100. C** — Each number is 9 less than the one before it, since 120 minus 9 is 111, then 102, then 93. Subtracting 9 from 93 gives 84. The choice 83 subtracts 10, and 85 subtracts only 8, so both break the steady pattern. The choice 75 subtracts 18, which is two steps at once and skips a number.

**101. D** — Each number is 3 times the one before it, since 17 times 3 is 51, then 153, then 459. Three times 459 is 1377. The choice 918 doubles 459, which uses the wrong multiplier. The choice 612 adds 153, and the choice 1370 adds 911, so neither continues the pattern of multiplying by 3.

**102. C** — Each number is half of the one before it, since 768 divided by 2 is 384, then 192, then 96. Half of 96 is 48. The choice 24 halves twice, which skips a number. The choice 72 subtracts 24, and 94 subtracts only 2, so neither follows the pattern of dividing by 2 each time.

**103. A** — The numbers grow by a larger amount each time: 1, 2, 3, then 4, since 13 plus 1 is 14, then 16, then 19, then 23. The next jump is 5, and 23 plus 5 is 28. The choice 27 repeats a jump of 4, 29 adds 6, and 30 adds 7, so each breaks the growing step.

**104. B** — The numbers grow by 2, 4, 6, then 8, since 5 plus 2 is 7, then 11, then 17, then 25. The next jump is 10, and 25 plus 10 is 35. The choice 33 adds only 8, repeating the last jump, the choice 37 adds 12, and the choice 50 doubles 25, so none continues the pattern.

**105. B** — The pattern alternates between adding 10 and subtracting 5: 10 plus 10 is 20, then 20 minus 5 is 15, then plus 10 is 25, then minus 5 is 20. The next step is plus 10, so 20 plus 10 is 30. The choice 25 adds 5, the choice 35 adds 15, and the choice 40 adds 20.

**106. D** — The pattern alternates between subtracting 10 and adding 5: 90 minus 10 is 80, then 80 plus 5 is 85, then minus 10 is 75, then plus 5 is 80. The next step is minus 10, so 80 minus 10 is 70. The choice 65 subtracts 15, the choice 75 subtracts 5, and 85 adds 5.

**107. A** — Two patterns are woven together. Every other number goes 4, 7, 10, adding 3 each time, and the others go 60, 54, 48, subtracting 6. The next number belongs to the first pattern, and 10 plus 3 is 13. The choice 42 follows the second pattern, 16 skips ahead by 6, and 12 adds only 2.

**108. C** — Two patterns are woven together. Every other number goes 1, 3, 5, 7, adding 2, and the others go 30, 27, 24, subtracting 3. The next number belongs to the second pattern, and 24 minus 3 is 21. The choice 9 continues the first pattern, 20 subtracts 4, and 18 subtracts 6.

**109. A** — Each number is one third of the one before it, since 2187 divided by 3 is 729, then 243, then 81. One third of 81 is 27. The choice 54 subtracts 27, the choice 40 is about half of 81, and the choice 29 is not made by any step in the pattern, so none divides by 3.

**110. B** — Each number is double the one before it plus 1: 3 times 2 is 6 and 6 plus 1 is 7, then 15, then 31. Twice 31 is 62, and 62 plus 1 is 63. The choice 62 forgets to add 1, the choice 64 adds 2, and the choice 47 adds 16, so none follows the two-step rule.

**111. C** — Each number is 3 times the one before it, minus 1: 6 times 3 is 18 and 18 minus 1 is 17, then 50, then 149. Three times 149 is 447, and 447 minus 1 is 446. The choice 447 forgets to subtract 1, the choice 298 doubles 149, and the choice 444 subtracts 3.

**112. D** — The numbers grow by an amount that doubles each time: 1, 2, 4, then 8, since 2 plus 1 is 3, then 5, then 9, then 17. The next jump is 16, and 17 plus 16 is 33. The choice 31 adds 14, the choice 34 adds 17, and the choice 29 adds 12, so none continues the doubling.

**113. D** — The numbers drop by 1, 3, 5, then 7, the odd numbers in order, since 100 minus 1 is 99, then 96, then 91, then 84. The next drop is 9, and 84 minus 9 is 75. The choice 74 drops 10, 76 drops only 8, and 70 drops 14, so each breaks the pattern of odd drops.

**114. B** — The numbers grow by 5, 7, 9, then 11, the odd numbers in order, since 3 plus 5 is 8, then 15, then 24, then 35. The next jump is 13, and 35 plus 13 is 48. The choice 47 adds 12, 49 adds 14, and 45 adds 10, so each one breaks the pattern of odd jumps.

**115. C** — The pattern alternates between doubling and subtracting 2: 5 times 2 is 10, then 10 minus 2 is 8, then times 2 is 16, then minus 2 is 14, then times 2 is 28. The next step is minus 2, so 28 minus 2 is 26. The choice 56 doubles again, 30 adds 2, and 24 subtracts 4.

**116. A** — Two patterns are woven together. Every other number goes 3, 6, 12, 24, doubling each time, and the others go 120, 105, 90, subtracting 15. The next number belongs to the second pattern, and 90 minus 15 is 75. The choice 48 continues the doubling, 60 subtracts 30, and 80 subtracts only 10.

**117. C** — The jumps themselves double: 3, 6, 12, then 24, since 6 plus 3 is 9, then 15, then 27, then 51. The next jump is 48, and 51 plus 48 is 99. The choice 75 adds 24, repeating the last jump, the choice 102 adds 51, and the choice 93 adds 42, so none continues the doubling jumps.

**118. A** — Each number is half of the one before it, plus 4: 200 divided by 2 is 100 and 100 plus 4 is 104, then 56, then 32, then 20. Half of 20 is 10, and 10 plus 4 is 14. The choice 10 forgets to add 4, the choice 12 adds 2, and the choice 16 adds 6.

**119. B** — In the top row, the circle keeps its shape and shade but grows from small to large. The small black triangle should grow the same way, so it becomes a large black triangle. The small black triangle would mean nothing changed, the large white triangle changes the shade, and the large black circle changes the shape.

**120. D** — In the top row, one more shape is added, going from two dots to three dots, while the shade stays black. Four white squares should become five white squares in the same way. Six white squares adds two shapes, four white squares adds none, and five black squares changes the shade, which stayed the same in the top row.

**121. B** — In the top row, the arrow makes a quarter turn clockwise, from up to right. An arrow pointing left turned a quarter turn clockwise points up, like moving from nine to twelve on a clock face. Down and right are the wrong turn amounts, and left means the arrow did not turn at all.

**122. D** — In the top row, the same small black circle is added on top of the square, and nothing else changes. The star should gain the same small black circle on top. The star with the circle underneath puts it in a new place, the black star changes the shade, and the white circle changes the circle's shade.

**123. A** — In the top row, the dot moves to the opposite side of the circle, from top to bottom. In the bottom row, the dot starts on the left, so it moves to the right. A dot on the left repeats the first square, and a dot on top or in the center breaks the pattern.

**124. C** — In the top row, the circle keeps its shade, and a white dot is added inside it. The grey square should keep its shade and gain a white dot inside. A black dot uses a different dot shade, a plain grey square adds no dot, and a white square with a white dot changes the outer shade.

**125. C** — In the top row, the black half moves to the opposite side, from left to right. The circle's black half starts on top, so it should move to the bottom. The top half repeats the first circle, and the left half and right half turn the black part sideways, which does not match the left-to-right swap.

**126. B** — In the top row, the shade gets darker from white to grey to black while the shape stays the same. The bottom row should follow the same shade order with a square, so it ends with a black square. A black circle changes the shape, a white square starts over, and a striped square uses a new shade.

**127. A** — In the top row, the star grows from small to medium to large while the shape and shade stay the same. The bottom row should grow in the same way, so a large heart comes after the medium heart. A medium heart repeats the second figure, a large star changes the shape, and a small heart starts the pattern over.

**128. D** — In the top row, one more shape is added at each step, going from one to two to three dots. The bottom row starts at three triangles and four triangles, so the next number is five triangles. Six triangles skips a number, four triangles repeats the middle figure, and five dots has the right count but changes the shape.

**129. B** — In the top row, one dot is taken away at each step, from four to three to two. The bottom row starts at five lines and four lines, so it should drop to three lines. Two lines drops too far, four lines repeats the middle figure, and six lines adds a line when the pattern takes one away.

**130. C** — In the top row, the line turns one eighth of a turn clockwise at each step, from upright to a forward slash to flat. In the bottom row, the flat line turns to a backslash and then to upright. A flat line or a backslash repeats an earlier position, and a forward slash turns the wrong way.

**131. A** — In the top row, the shades swap at each step, so the inner shape and outer shape trade black and white and then swap back. The bottom row has done one swap, so the next step swaps back to a black triangle inside a white diamond. The other choices repeat the middle figure or give both shapes the same shade.

**132. D** — Each row and each column has one circle, one square, and one triangle, and one white, one grey, and one black shape. The bottom row has a square and a triangle, so it needs a circle, and it has grey and white, so it needs black. A white circle repeats a shade, and a black square repeats a shape.

**133. A** — In each row, the third figure has as many shapes as the first two figures put together: 1 plus 2 is 3, and 2 plus 3 is 5. In the bottom row, 4 plus 3 is 7, so seven squares complete it. One square subtracts the numbers, and five squares and six squares add too few.

**134. C** — In every row, the arrow makes a quarter turn clockwise at each step: up, right, down in the top row and right, down, left in the middle row. The bottom row goes down, left, and then up. Down and left repeat figures already used in that row, and right turns the wrong way.

**135. B** — In each row, the third box combines the dots from the first two boxes. The bottom row shows one dot in the top-left corner and one in the bottom-right corner, so the missing box has both. Only one dot would leave out part of the combination, and top-right with bottom-left puts the dots in corners that were never used.

**136. D** — In each row, one more shape appears at every step, from one to two to three, and the shades cycle through white, black, and grey in order. The bottom row starts grey, then white, so black comes next, with three squares. Three white or grey squares repeat a shade, and two black squares has the wrong count.

**137. A** — In each row, every figure has one more side than the figure before it: three, four, five in the top row and four, five, six in the middle row. The bottom row goes five, six, and then seven. An eight-sided shape skips a number, and the six-sided and five-sided shapes repeat figures already shown in that row.

**138. D** — Each row keeps one arrow direction, up in the top row, right in the middle row, and down in the bottom row. Each column keeps one shade, white, then grey, then black. The missing figure sits in the black column and the down row, so it is a black arrow pointing down. The other choices fail on shade or direction.

**139. B** — Folding once makes two layers, so each punch goes through two pieces of paper. Four punches make 4 times 2, which is 8 holes on the opened sheet. Four holes forgets the second layer, six

holes adds only two extra, and sixteen holes treats the paper as having four layers, which one fold cannot make.

**140. C** — Two folds make four layers, so a single punch goes through four pieces of paper and leaves four holes when the sheet is opened. One hole ignores the layers, two holes counts only one fold, and eight holes would need three folds, which this sheet does not have, so four holes is the only number that fits.

**141. B** — Folding left to right makes a mirror image across the fold, which becomes the center line of the sheet. The hole is not on the fold, so it is copied to the other half at the same height, giving two holes side by side in the middle row. One hole would need a punch on the fold.

**142. A** — A letter fold makes three layers, so each punch goes through three pieces of paper. Three punches make 3 times 3, which is 9 holes on the opened sheet. Three holes forgets the layers, six holes treats the paper as having two layers, and twelve holes treats it as having four layers, which this fold cannot make.

**143. D** — The fold line is the middle of the sheet, running left to right. A hole near the top-left corner is copied to the opposite side of that fold, at the same distance and on the same left side. That makes a high left hole and a low left hole. A high right hole would need a side fold.

**144. C** — Two folds make four layers, so each punch goes through four pieces of paper and leaves four holes. Three punches make 3 times 4, which is 12 holes on the opened sheet. Three holes counts the punches without the layers, six holes counts only two layers, and sixteen holes would come from four punches instead of three.

**145. D** — Folding into three vertical strips stacks three layers, and a hole in the middle of the stack goes through the middle of each strip. When opened, the sheet shows three holes in a straight row across the middle, one in each strip. One hole ignores the layers, and a vertical column of holes would need horizontal folds.

**146. C** — Folding in half three times doubles the layers each time, from one to two to four to eight. Each punch goes through eight pieces of paper, so two punches make 2 times 8, which is 16 holes. Eight holes treats the paper as having four layers, and ten and twelve holes do not match any number of layers.

**147. B** — The small folded square is one quarter of the sheet, and its outer corner is a corner of the original sheet. A hole near that corner is copied across both fold lines, so every corner of the opened sheet gets one hole. Holes near the center would come from the middle corner, and one or two holes ignore a fold.

**148. A** — The letter fold makes three layers and the extra fold in half doubles that to six layers. Each punch goes through six pieces of paper, so two punches make 2 times 6, which is 12 holes. Six holes counts only the layers once, eight holes does not match any number of layers, and eighteen holes would come from three punches.

**149. A** — Both fold lines cross at the center of the sheet, and the punched corner is that crossing point. A hole near it is copied across each fold line, so four holes sit around the center. Holes near the corners would need a punch near the outer corner, and one hole needs a punch on the crossing.

**150. B** — Folding along a diagonal places one corner of the sheet exactly on the opposite corner. A hole near the right-angle corner goes through both layers, so it appears near that corner and near the corner it was folded onto. Those two corners are opposite each other. One hole ignores the second layer, and four holes would need two folds.

**151. D** — The small folded square is one quarter of the sheet, stacked four layers deep. A hole in its middle goes through all four layers, so each quarter of the opened sheet gets one hole in its own middle. A row of four holes or a single hole ignores the folds, and two holes would come from one fold.

**152. C** — Two folds make four layers, so each punch makes four holes. Six punches make 6 times 4, which is 24 holes on the opened sheet. Twelve holes treats the paper as having two layers, eighteen holes treats it as having three, and ten holes only adds four to the six punches, which ignores how folds multiply holes.

**153. C** — Folding left to right makes the center line the fold. Holes punched close to the fold are copied to the other side of the center line at the same height. Each hole becomes a pair beside the center line, a pair near the top and a pair near the bottom. Holes near the corners would need punches elsewhere.

**154. A** — Two folds end to end split the strip into four equal sections stacked on top of each other. A hole in the middle of the stack lands in the middle of every section, so the opened strip shows four holes with equal gaps. Three holes would need a three-part fold, and two holes would need only one fold.

**155. B** — Folding left to right makes a mirror image, so each hole is copied to the other side of the sheet at the same height and with the same shape. The round holes appear high on both sides, and the square holes appear low on both sides. A diagonal pairing, swapped heights, or one-sided holes break the mirror rule.

**156. D** — Two folds make four layers, so each punch leaves four holes. Five punches make 5 times 4, which is 20 holes on the opened sheet. Ten holes treats the paper as having two layers, fifteen holes treats it as having three, and nine holes only adds four to the five punches.

**157. C** — Each punch is copied across both fold lines, so each one makes four holes. The punch near the center corner gives four holes around the center, and the punch near the outer corner gives one hole near each corner of the sheet. Together that makes eight holes. Four holes at the center or corners alone counts only one punch.

**158. A** — The shapes change from circle to square to triangle, but all three figures are filled with stripes, so the shared feature is the striped fill. A striped star has that feature. The black, white, and grey stars have solid or empty fills, so none of them matches the stripes seen in all three figures.

**159. B** — The shapes and shades change, but all three figures are large, so the shared feature is size. A large striped star keeps that size. The small, tiny, and very small stars are all much smaller than the first three, so each one fails the size match even though the stripes might look new.

**160. A** — The shapes and shades change, but each figure has exactly two shapes, so two is the shared feature. Two striped hearts matches that count. One striped heart has too few shapes, and three striped hearts and four striped hearts have too many, so each of them breaks the count even though the stripes are new.

**161. D** — A square, a rectangle, and a trapezoid all have exactly four straight sides, so four sides is the shared feature. A diamond also has four sides. A pentagon has five sides, a triangle has three, and a hexagon has six, so none of those matches the count of sides in the first three figures.

**162. C** — The shapes and shades change, but each shape sits in the top-left corner of its box, so position is the shared feature. A striped star in the top-left corner matches. The stars in the top-right, bottom-left, and bottom-right corners each sit in a different part of the box, so they do not match the first three.

**163. D** — Each of the first three figures has a dot near the top inside it, even though the shapes, the shades, and the dot colors change. A hexagon with a dot near the top has that feature. The hexagons with a dot near the bottom, near the left, or in the middle place the dot somewhere else.

**164. B** — The shapes change, but every figure is filled with wavy lines, so the fill pattern is the shared feature. A star filled with wavy lines matches. Straight lines, small dots, and small crosses are different patterns, so none of them matches what the first three figures share, even though they cover the shape in a similar way.

**165. D** — The shapes and shades change, but each figure points up, so the direction is the shared feature. A striped arrow pointing up matches. An arrow pointing down points the opposite way, and arrows pointing left or right point sideways, so none of those three share the upward direction seen in the first three.

**166. C** — A circle, an oval, and a crescent have only curved edges, with no straight sides or sharp corners. A ring is also made only of curves. A square, a triangle, and a rectangle all have straight sides and corners, so they break what the first three share, even though they might be the same size or have stripes.

**167. A** — The shapes and shades change, but every figure is tall and thin, so the shared feature is the stretched upright proportion. A tall thin diamond matches. A short wide diamond is stretched sideways, a diamond as wide as it is tall is not thin, and a tiny round diamond is neither tall nor thin.

**168. B** — The shapes and the number of shapes change, but each row has exactly one black shape and the rest are white, so one black shape is the shared feature. Seven stars with one black matches. Two black and three black have too many black stars, and none black has no black star at all.

**169. B** — Each figure has three shapes of one kind, two black and one white, so the shared feature is that two-to-one mix of shades. Two black stars and one white star matches. One black and two white reverses the mix, three black has no white shape, and a white circle breaks the rule that all three shapes are the same kind.

**170. A** — Each figure has a small black shape inside a large white shape, so the shared feature is the small black piece inside a large white piece. The first choice matches that. Swapping the shades,

swapping the sizes, or moving the heart beside the diamond instead of inside it each breaks part of that pattern.

**171. D** — Each figure has one white shape and one black shape of the same kind, and the two shapes touch. A white heart touching a black heart matches. A white heart apart from a black heart does not touch, two white hearts have no black shape, and a black star is a different shape from the white heart.

**172. C** — Each figure is cut into four equal pieces with exactly one piece black, so the shared feature is four pieces and one black piece. The first choice matches both parts. Two black pieces adds one too many, two pieces changes the cut, and all white pieces leaves out the black piece entirely.

**173. B** — Each figure is made of exactly three shapes of the same kind, nested one inside the next. Three nested stars matches both the count and the nesting. Two stars have too few, four stars have too many, and three stars side by side have the right count but are not inside each other.

**174. D** — The number of sides changes, but in every figure all the sides are the same length, so equal sides is the shared feature. A pentagon with five equal sides matches. A pentagon with different lengths, a long rectangle, and a tall triangle with unequal sides each have sides that are not all the same length.

**175. A** — The shapes change, but every row of four alternates black and white, starting with black. Four stars colored black, white, black, white keep that alternating order. Black, black, white, white groups the shades, black, white, white, black breaks the pattern in the middle, and black, white, black, black breaks it at the end.

**176. C** — The number of sides changes, but each shape has one dot at every corner, so dots at all the corners is the shared feature. A hexagon with a dot at each corner matches. One dot at one corner, one dot in the middle, and dots at every other corner each leave some corners without a dot.