

# PRACTICE EXAM 7: CCAT GRADE 4 SIMULATION (176 QUESTIONS)

---

*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. Cow is to milk as hen is to \_\_\_\_.

- A. eggs
- B. wool
- C. honey
- D. bacon

2. Kitten is to cat as duckling is to \_\_\_\_.

- A. cow
- B. duck
- C. hen
- D. goat

3. Barn is to cow as coop is to \_\_\_\_.

- A. horse
- B. pig
- C. goat
- D. chicken

4. Sheep is to wool as bee is to \_\_\_\_.

- A. milk
- B. eggs
- C. honey
- D. leather

5. Moo is to cow as quack is to \_\_\_\_.

- A. hen
- B. duck
- C. goat
- D. horse

6. Foal is to horse as lamb is to \_\_\_\_.

- A. cow
- B. pig
- C. duck
- D. sheep

7. Fin is to fish as wing is to \_\_\_\_.

- A. pig
- B. trout
- C. eagle
- D. frog

8. Fur is to rabbit as feather is to \_\_\_\_.

- A. goose
- B. pig
- C. goat
- D. sheep

9. Fast is to rabbit as slow is to \_\_\_\_\_.

- A. eagle
- B. turtle
- C. horse
- D. cheetah

10. Stable is to horse as kennel is to \_\_\_\_\_.

- A. cow
- B. hen
- C. dog
- D. pig

11. Shepherd is to sheep as cowboy is to \_\_\_\_\_.

- A. saddle
- B. fence
- C. barn
- D. cattle

12. Hen is to flock as cow is to \_\_\_\_\_.

- A. herd

- B. pack
- C. school
- D. swarm

**13.** Honey is to bear as hay is to \_\_\_\_.

- A. wolf
- B. fox
- C. horse
- D. owl

**14.** Egg is to chick as seed is to \_\_\_\_.

- A. shell
- B. plant
- C. barn
- D. nest

**15.** Milk is to cheese as wheat is to \_\_\_\_.

- A. bread
- B. eggs
- C. wool
- D. hay

**16.** Shear is to sheep as milk is to \_\_\_\_.

- A. hen
- B. pig
- C. duck
- D. cow

17. Fish is to school as wolf is to \_\_\_\_.

- A. pack
- B. herd
- C. flock
- D. swarm

18. Hibernate is to bear as migrate is to \_\_\_\_.

- A. cow
- B. pig
- C. hen
- D. goose

19. Predator is to fox as prey is to \_\_\_\_.

- A. wolf
- B. rabbit
- C. hawk
- D. eagle

20. Herbivore is to cow as carnivore is to \_\_\_\_.

- A. horse
- B. sheep
- C. wolf
- D. rabbit

21. The farmer got up early to \_\_\_\_ the cows.

- A. knit
- B. bake
- C. milk
- D. sail

**22.** A baby sheep is called a \_\_\_\_.

- A. calf
- B. chick
- C. foal
- D. lamb

**23.** The hen sat on her nest to keep her \_\_\_\_ warm.

- A. milk
- B. eggs
- C. wool
- D. hay

**24.** The sheepdog ran fast to \_\_\_\_ the sheep back into the pen.

- A. herd
- B. tickle
- C. paint
- D. borrow

**25.** We store dry grass called \_\_\_\_ in the barn loft for winter.

- A. sand

- B. ice
- C. milk
- D. hay

**26.** The pig rolled in the mud to stay \_\_\_\_ on the hot day.

- A. cool
- B. clean
- C. hungry
- D. loud

**27.** Bees fly from flower to flower to collect \_\_\_\_.

- A. wool
- B. nectar
- C. feathers
- D. corn

**28.** The scarecrow stood in the field to \_\_\_\_ birds away from the corn.

- A. call
- B. feed
- C. scare
- D. greet

**29.** The rooster crowed at \_\_\_\_ to wake the farm.

- A. dawn
- B. sunset
- C. midnight
- D. lunchtime

**30.** The fox moved \_\_\_\_ through the tall grass so the hens would not hear it.

- A. noisily
- B. quietly
- C. proudly
- D. sleepily

**31.** Cows eat only grass and plants, so they are called \_\_\_\_.

- A. carnivores
- B. predators
- C. insects
- D. herbivores

**32.** The cow was \_\_\_\_ because it had not had water all day.

- A. cheerful
- B. frozen
- C. thirsty
- D. wealthy

**33.** The hungry goat \_\_\_\_ over the low fence and \_\_\_\_ the farmer's carrots.

- A. ate, jumped
- B. slept, painted
- C. sang, built
- D. jumped, ate

**34.** The farmer \_\_\_\_ the seeds in neat rows so the corn would grow straight.

- A. planted
- B. washed
- C. painted
- D. lost

**35.** The farmer was \_\_\_\_\_ that the storm would ruin his wheat crop.

- A. pleased
- B. worried
- C. sleepy
- D. generous

**36.** The new tractor was much \_\_\_\_\_ than the old one, so the work got done quicker.

- A. slower
- B. older
- C. faster
- D. duller

**37.** The calf wobbled on its \_\_\_\_\_ legs soon after it was born.

- A. strong
- B. tall
- C. fast
- D. weak

**38.** The rancher \_\_\_\_\_ the rope around the post so the horse could not wander away.

- A. tied

- B. cut
- C. sang
- D. ate

**39.** Although the rooster was small, he was very \_\_\_\_ and chased away the big dog.

- A. timid
- B. lazy
- C. brave
- D. sleepy

**40.** The farmer was \_\_\_\_ to sell the old mare, since she had served the family faithfully for twenty years.

- A. delighted
- B. reluctant
- C. hurried
- D. pleased

**41.** Which word belongs with: cow, pig, goat?

- A. barn
- B. hay
- C. corn
- D. sheep

**42.** Which word belongs with: barn, silo, stable?

- A. coop
- B. tractor
- C. goat
- D. wheat

**43.** Which word belongs with: wheat, corn, oats?

- A. fence
- B. barley
- C. egg
- D. pig

**44.** Which word belongs with: duck, goose, turkey?

- A. bat
- B. trout
- C. chicken
- D. frog

**45.** Which word belongs with: rake, hoe, shovel?

- A. pitchfork
- B. hay
- C. horse
- D. barn

**46.** Which word belongs with: milk, cheese, butter?

- A. bread
- B. yogurt
- C. honey
- D. wool

**47.** Which word belongs with: foal, calf, lamb?

- A. bull
- B. hen
- C. mare
- D. piglet

**48.** Which word belongs with: moo, quack, oink?

- A. tail
- B. leaf
- C. baa
- D. hay

**49.** Which word belongs with: beak, wing, feather?

- A. horn
- B. hoof
- C. talon
- D. snout

**50.** Which word belongs with: trot, gallop, canter?

- A. swim
- B. walk
- C. fly
- D. hop

**51.** Which word belongs with: bee, ant, beetle?

- A. spider

- B. worm
- C. snail
- D. wasp

**52.** Which word belongs with: fox, wolf, coyote?

- A. dog
- B. cat
- C. bear
- D. rabbit

**53.** Which word belongs with: frog, toad, salamander?

- A. lizard
- B. snake
- C. newt
- D. turtle

**54.** Which word belongs with: eagle, hawk, owl?

- A. falcon
- B. robin
- C. duck
- D. sparrow

**55.** Which word belongs with: milk, shear, herd?

- A. sleep
- B. feed
- C. swim
- D. read

**56.** Which word belongs with: mare, stallion, foal?

- A. ram
- B. sow
- C. bull
- D. pony

**57.** Which word belongs with: sow, boar, piglet?

- A. ram
- B. hog
- C. mare
- D. doe

**58.** Which word belongs with: cob, husk, kernel?

- A. rind
- B. shell
- C. pit
- D. stalk

**59.** Which word belongs with: omnivore, herbivore, carnivore?

- A. habitat
- B. burrow
- C. insectivore
- D. nest

**60.** Two number pairs follow the same rule:  $3 : 8$  and  $6 : 11$ . Which number goes with 10 ( $10 : ?$ ) in the same way?

- A. 15
- B. 20
- C. 16
- D. 14

**61.** Two number pairs follow the same rule:  $9 : 4$  and  $15 : 10$ . Which number goes with 20 ( $20 : ?$ ) in the same way?

- A. 25
- B. 14
- C. 16
- D. 15

**62.** Two number pairs follow the same rule:  $4 : 12$  and  $6 : 18$ . Which number goes with 7 ( $7 : ?$ ) in the same way?

- A. 21
- B. 14
- C. 28
- D. 17

**63.** Two number pairs follow the same rule:  $20 : 4$  and  $35 : 7$ . Which number goes with 45 ( $45 : ?$ ) in the same way?

- A. 40
- B. 9
- C. 15
- D. 11

**64.** Two number pairs follow the same rule:  $7 : 14$  and  $9 : 16$ . Which number goes with 12 ( $12 : ?$ ) in the same way?

- A. 24
- B. 21
- C. 19
- D. 18

**65.** Two number pairs follow the same rule:  $12 : 5$  and  $20 : 13$ . Which number goes with 30 ( $30 : ?$ ) in the same way?

- A. 37
- B. 23
- C. 22
- D. 25

**66.** Two number pairs follow the same rule:  $3 : 7$  and  $9 : 19$ . Which number goes with 12 ( $12 : ?$ ) in the same way?

- A. 24
- B. 26
- C. 25
- D. 15

**67.** Two number pairs follow the same rule:  $6 : 2$  and  $15 : 5$ . Which number goes with 24 ( $24 : ?$ ) in the same way?

- A. 8
- B. 18
- C. 12
- D. 21

**68.** Two number pairs follow the same rule:  $2 : 10$  and  $3 : 15$ . Which number goes with 8 ( $8 : ?$ ) in the same way?

- A. 13
- B. 35
- C. 48
- D. 40

**69.** Two number pairs follow the same rule:  $30 : 24$  and  $50 : 44$ . Which number goes with 70 ( $70 : ?$ ) in the same way?

- A. 76
- B. 62
- C. 66
- D. 64

**70.** Two number pairs follow the same rule:  $11 : 5$  and  $15 : 9$ . Which number goes with 23 ( $23 : ?$ ) in the same way?

- A. 29
- B. 17
- C. 19
- D. 15

**71.** Two number pairs follow the same rule:  $4 : 19$  and  $6 : 29$ . Which number goes with 9 ( $9 : ?$ ) in the same way?

- A. 44
- B. 45
- C. 54
- D. 36

**72.** Two number pairs follow the same rule:  $45 : 15$  and  $60 : 20$ . Which number goes with 75 ( $75 : ?$ ) in the same way?

- A. 15
- B. 37
- C. 25
- D. 55

**73.** Two number pairs follow the same rule:  $8 : 20$  and  $10 : 24$ . Which number goes with 13 ( $13 : ?$ ) in the same way?

- A. 26
- B. 33
- C. 30
- D. 36

**74.** Two number pairs follow the same rule:  $40 : 32$  and  $25 : 17$ . Which number goes with 60 ( $60 : ?$ ) in the same way?

- A. 68
- B. 50
- C. 48
- D. 52

**75.** Two number pairs follow the same rule:  $3 : 21$  and  $5 : 35$ . Which number goes with 9 ( $9 : ?$ ) in the same way?

- A. 56
- B. 63
- C. 72
- D. 49

**76.** Two number pairs follow the same rule:  $36 : 9$  and  $60 : 15$ . Which number goes with 84 ( $84 : ?$ ) in the same way?

- A. 21
- B. 80
- C. 28
- D. 42

**77.** Two number pairs follow the same rule:  $7 : 23$  and  $9 : 29$ . Which number goes with 12 ( $12 : ?$ ) in the same way?

- A. 36
- B. 38
- C. 39
- D. 31

**78.** Two number pairs follow the same rule:  $15 : 60$  and  $8 : 32$ . Which number goes with 25 ( $25 : ?$ ) in the same way?

- A. 75
- B. 125
- C. 29
- D. 100

**79.** Two number pairs follow the same rule:  $6 : 25$  and  $9 : 37$ . Which number goes with 13 ( $13 : ?$ ) in the same way?

- A. 52
- B. 17
- C. 53
- D. 43

**80.** Solve:  $9 + ? = 25$ . What number goes in the blank?

- A. 16
- B. 34
- C. 15
- D. 17

**81.** Solve:  $30 - ? = 12$ . What number goes in the blank?

- A. 42
- B. 17
- C. 18
- D. 19

**82.** Solve:  $? \times 9 = 54$ . What number goes in the blank?

- A. 45
- B. 63
- C. 5
- D. 6

**83.** Solve:  $96 \div ? = 16$ . What number goes in the blank?

- A. 6
- B. 80
- C. 112
- D. 8

**84.** Solve:  $? + ? = 34$ . The same number goes in both blanks. What is it?

- A. 68
- B. 17
- C. 16
- D. 18

**85.** Solve:  $? \times ? = 36$ . The same number goes in both blanks. What is it?

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

**86.** Which sign makes this true?  $15 ? 3 = 5$

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

**87.** Solve:  $? - 14 = 9 + 8$ . What number goes in the blank?

- A. 17
- B. 23
- C. 31
- D. 3

**88.** Solve:  $4 \times ? + 5 = 33$ . What number goes in the blank?

- A. 28
- B. 9
- C. 8

D. 7

**89.** Solve:  $? + 19 = 5 \times 7$ . What number goes in the blank?

A. 35

B. 54

C. 16

D. 14

**90.** Which sign makes this true?  $31 ? 14 = 17$

A. plus

B. times

C. divided by

D. minus

**91.** Solve:  $50 - ? = 3 \times 9$ . What number goes in the blank?

A. 23

B. 27

C. 77

D. 14

**92.** Solve:  $? \div 5 + 4 = 10$ . What number goes in the blank?

A. 6

B. 30

C. 34

D. 50

**93.** Solve:  $3 \times ? - 7 = 20$ . What number goes in the blank?

- A. 27
- B. 11
- C. 7
- D. 9

**94.** Which sign makes this true?  $12 ? 6 = 72$

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

**95.** Solve:  $? + ? + ? = 27$ . The same number goes in all three blanks. What is it?

- A. 24
- B. 3
- C. 9
- D. 8

**96.** Solve:  $? \times ? = 64$ . The same number goes in both blanks. What is it?

- A. 32
- B. 8
- C. 16
- D. 9

**97.** Solve:  $(? + 4) \times 3 = 36$ . What number goes in the blank?

- A. 12
- B. 16
- C. 40
- D. 8

**98.** Solve:  $? + ? - 6 = 20$ . The same number goes in both blanks. What is it?

- A. 26
- B. 13
- C. 10
- D. 16

**99.** What number comes next? 19, 38, 57, 76, ?

- A. 90
- B. 114
- C. 95
- D. 84

**100.** What number comes next? 120, 110, 100, 90, ?

- A. 80
- B. 70
- C. 85
- D. 75

**101.** What number comes next? 145, 138, 131, 124, ?

- A. 117
- B. 110
- C. 120

D. 115

**102.** What number comes next? 100, 95, 90, 85, ?

A. 75

B. 70

C. 82

D. 80

**103.** What number comes next? 2, 4, 8, 16, ?

A. 24

B. 20

C. 32

D. 18

**104.** What number comes next? 7, 9, 12, 16, 21, ?

A. 26

B. 27

C. 28

D. 30

**105.** What number comes next? 7, 21, 63, 189, ?

A. 378

B. 252

C. 567

D. 756

**106.** What number comes next? 240, 120, 60, 30, ?

- A. 10
- B. 15
- C. 20
- D. 25

**107.** What number comes next? 10, 11, 13, 16, 20, ?

- A. 24
- B. 26
- C. 30
- D. 25

**108.** What number comes next? 31, 28, 25, 22, ?

- A. 19
- B. 18
- C. 20
- D. 16

**109.** What number comes next? 50, 45, 39, 32, 24, ?

- A. 16
- B. 15
- C. 14
- D. 17

**110.** What number comes next? 1, 3, 2, 4, 3, 5, ?

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

**111.** What number comes next? 5, 20, 10, 40, 20, 80, ?

- A. 160
- B. 100
- C. 40
- D. 60

**112.** What number comes next? 2, 50, 4, 45, 6, 40, 8, ?

- A. 10
- B. 30
- C. 36
- D. 35

**113.** What number comes next? 5, 6, 8, 12, 20, ?

- A. 36
- B. 40
- C. 28
- D. 34

**114.** What number comes next? 5, 8, 7, 10, 9, 12, ?

- A. 14
- B. 11
- C. 13

D. 10

**115.** What number comes next? 25, 36, 49, 64, 81, ?

A. 90

B. 99

C. 100

D. 121

**116.** What number comes next? 2, 7, 4, 14, 6, 21, ?

A. 28

B. 9

C. 10

D. 8

**117.** What number comes next? 3, 7, 15, 31, 63, ?

A. 126

B. 127

C. 95

D. 125

**118.** What number comes next? 6, 12, 10, 20, 18, 36, ?

A. 72

B. 32

C. 38

D. 34

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

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

**120.** In a 2 by 2 grid, the left column shows a white square on top and a white circle below it. The right column shows a black square on top and a missing figure below it. Which figure completes the grid?

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

**121.** In a 2 by 2 grid, the top row shows one white star, then two white stars. The bottom row shows three black triangles, then a missing figure. Which figure completes the grid?

- A. three black triangles
- B. four white triangles
- C. four black stars
- D. four black triangles

**122.** In a 2 by 3 grid, the top row shows one small white circle, two small white circles, and three small white circles. The bottom row shows one large black square, two large black squares, and a missing figure. Which figure completes the grid?

- A. three large black squares
- B. two large black squares
- C. three small black squares
- D. three large white squares

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

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

**124.** In a 2 by 2 grid, the top row shows a white arrow pointing up, then a black arrow pointing right. The bottom row shows a white arrow pointing down, then a missing figure. Which figure completes the grid?

- A. a black arrow pointing right
- B. a black arrow pointing left
- C. a white arrow pointing left
- D. a black arrow pointing up

**125.** In a 2 by 2 grid, the top row shows a striped triangle, then a striped square. The bottom row shows a striped pentagon, then a missing figure. Which figure completes the grid?

- A. a striped octagon
- B. a black hexagon
- C. a striped hexagon
- D. a striped pentagon

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

- A. a black triangle

- B. a striped triangle
- C. a white triangle
- D. a black circle

**127.** In a 2 by 3 grid, the top row shows a white circle, a white circle with one dot inside, and a white circle with two dots inside. The bottom row shows a white square, a white square with one dot inside, and a missing figure. Which figure completes the grid?

- A. a white square with three dots inside
- B. a black square with two dots inside
- C. a white square with one dot inside
- D. a white square with two dots inside

**128.** In a 2 by 2 grid, the top row shows a right triangle with its square corner at the bottom left, then a mirror image with its square corner at the bottom right. The bottom row shows a right triangle with its square corner at the top left, then a missing figure. Which figure completes the grid?

- A. a triangle with its square corner at the top left
- B. a triangle with its square corner at the top right
- C. a triangle with its square corner at the bottom right
- D. a triangle with its square corner at the bottom left

**129.** In a 3 by 3 grid, the first row shows a circle, a square, and a triangle. The second row shows a square, a triangle, and a circle. The third row shows a triangle, a circle, and a missing figure. Each shape appears once in every row and every column. Which figure completes the grid?

- A. a circle
- B. a triangle
- C. a square
- D. a star

**130.** In a 2 by 3 grid, the top row shows a small white circle, a medium white circle, and a large white circle. The bottom row shows a small black square, a medium black square, and a missing figure. Which figure completes the grid?

- A. a medium black square
- B. a large black square
- C. a large white square
- D. a large black circle

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

- A. a white triangle
- B. a black triangle
- C. a white star
- D. a black star

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

- A. a small white pentagon
- B. a large black pentagon
- C. a small black square
- D. a small black pentagon

**133.** In a 3 by 3 grid, the first row shows a circle, a plus sign, and a circle with a plus sign. The second row shows a triangle, a star, and a triangle with a star. The third row shows a square, a heart, and a missing figure. Which figure completes the grid?

- A. a square and a star
- B. a heart and a circle
- C. a square and a heart

D. a square and a circle

**134.** In a 2 by 3 grid, the top row shows a white square with its top left corner shaded black, then its top right corner shaded black, then its bottom right corner shaded black. The bottom row shows a circle with its top left quarter shaded, then its top right quarter shaded, and a missing figure. Which figure completes the grid?

- A. a circle with the bottom right quarter shaded
- B. a circle with the bottom left quarter shaded
- C. a circle with the top left quarter shaded
- D. a circle with the top right quarter shaded

**135.** In a 3 by 3 grid, the first row shows a white, a striped, and a black circle. The second row shows a striped, a black, and a white circle. The third row shows a black circle, a white circle, and a missing figure. Each shade appears once in every row and every column. Which figure completes the grid?

- A. a white circle
- B. a black circle
- C. a dotted circle
- D. a striped circle

**136.** In a 3 by 3 grid, the first row shows one dot, two dots, and three dots. The second row shows two dots, four dots, and six dots. The third row shows three dots, six dots, and a missing figure. Which figure completes the grid?

- A. eight dots
- B. nine dots
- C. twelve dots
- D. seven dots

**137.** In a 3 by 3 grid, the first row shows a triangle, a square, and a pentagon. The second row shows a square, a pentagon, and a hexagon. The third row shows a pentagon, a hexagon, and a missing figure. Which figure completes the grid?

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

**138.** In a 3 by 3 grid, the first row shows a white circle, a black square, and a black circle. The second row shows a black triangle, a white star, and a white triangle. The third row shows a white square, a black diamond, and a missing figure. In each row, the third figure takes its shape from the first box and its shade from the second box. Which figure completes the grid?

- A. a white diamond
- B. a black diamond
- C. a white square
- D. a black square

**139.** A square sheet of paper is folded in half from left to right. One hole is punched through the folded paper near its open edge. The paper is opened flat. How many holes are in the sheet?

- A. 1
- B. 2
- C. 3
- D. 4

**140.** A sheet of paper is folded in half once. Two separate holes are punched through the folded paper, both away from the crease. The paper is opened flat. How many holes are in the sheet?

- A. 2
- B. 3
- C. 4
- D. 6

**141.** A sheet of paper is folded in half, then folded in half again, making four layers. One hole is punched in the middle of the small folded square, away from all the folded edges. The paper is opened flat. How many holes are in the sheet?

- A. 2
- B. 1
- C. 8
- D. 4

**142.** A sheet of paper is folded in half from top to bottom. Three holes are punched through the folded paper, all away from the crease. The paper is opened flat. How many holes are in the sheet?

- A. 3
- B. 6
- C. 4
- D. 9

**143.** A long sheet of paper is folded like a letter into three equal parts, making three layers. One hole is punched through the folded paper, away from the folds. The paper is opened flat. How many holes are in the sheet?

- A. 2
- B. 4
- C. 3
- D. 6

**144.** A square sheet is folded in half from left to right. One hole is punched close to the crease, halfway up the folded paper. When the sheet is opened flat, where are the holes?

- A. two holes, close to the middle line, one on each side
- B. two holes, both close to the left edge, side by side
- C. one hole exactly on the middle line of the sheet

D. two holes, one in each top corner of the sheet

**145.** A square sheet is folded in half from top to bottom. One hole is punched near the open edge of the folded paper, halfway across. When the sheet is opened flat, where are the holes?

- A. two holes, both near the bottom edge of the sheet
- B. two holes, one near the top edge and one near the bottom edge
- C. one hole near the bottom edge only, halfway across
- D. two holes, one on each side of the middle line, close to it

**146.** A square sheet is folded corner to corner to make a triangle. One hole is punched in the middle of the triangle, away from the diagonal fold. When the sheet is opened flat, where are the holes?

- A. one hole exactly on the diagonal crease
- B. two holes, both on the same side of the crease
- C. four holes, one near each corner of the sheet
- D. two holes, one on each side of the diagonal crease

**147.** A sheet of paper is folded in half, then folded in half again, making four layers. Two separate holes are punched through the folded paper, away from the folded edges. The paper is opened flat. How many holes are in the sheet?

- A. 4
- B. 6
- C. 8
- D. 10

**148.** A sheet of paper is folded in half three times in a row, making eight layers. One hole is punched through the folded paper, away from the folded edges. The paper is opened flat. How many holes are in the sheet?

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

**149.** A square sheet is folded corner to corner to make a triangle. That triangle is folded in half again to make a smaller triangle. One hole is punched away from all the folds. The paper is opened flat. How many holes are in the sheet?

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

**150.** A sheet of paper is folded in half, then in half again, making four layers. Three holes are punched through the folded paper, away from the folded edges. The paper is opened flat. How many holes are in the sheet?

- A. 6
- B. 9
- C. 12
- D. 8

**151.** A sheet of paper is folded in half, then in half again, making four layers. Five holes are punched through the folded paper, away from the folded edges. The paper is opened flat. How many holes are in the sheet?

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

**152.** A square sheet is folded left onto right, then top onto bottom. One hole is punched in the middle of the small folded square, away from both creases. When the sheet is opened flat, how are the holes arranged?

- A. four holes, in a line down the middle
- B. one hole in the center of the sheet
- C. two holes, one in each bottom quarter
- D. four holes, one in each quarter of the sheet

**153.** A square sheet is folded left onto right, then top onto bottom, so the folded square has two creased edges and two open edges. One hole is punched close to the corner where the two open edges meet. When the sheet is opened flat, how are the holes arranged?

- A. four holes, one near each corner
- B. four holes, in a line down the middle
- C. two holes, near the bottom corners
- D. one hole near the bottom right corner

**154.** A square sheet is folded left onto right, then top onto bottom. One hole is punched close to the top creased edge but far from the left creased edge. When the sheet is opened flat, how are the holes arranged?

- A. four holes, one near each corner of the sheet
- B. four holes, a pair near the top edge and a pair near the bottom edge
- C. four holes, a pair near each side edge, level with the middle
- D. four holes, in a small square around the center

**155.** A sheet of paper is folded in half from top to bottom. One hole is punched close to both the crease and the left edge of the folded paper. When the sheet is opened flat, where are the holes?

- A. two holes near the right edge, one above and one below the middle line
- B. two holes near the left edge, one above and one below the middle line

- C. two holes near the left edge, both above the middle line
- D. one hole near the left edge, right on the middle line

**156.** A sheet of paper is folded in half, then in half again, making four layers. A circle-shaped hole is punched, and then a triangle-shaped hole is punched in a different spot, both away from the folded edges. The paper is opened flat. How many triangle-shaped holes are in the sheet?

- A. 2
- B. 1
- C. 8
- D. 4

**157.** A long sheet of paper is folded like a letter into three equal parts, then folded in half, making six layers. Three holes are punched through the folded paper, away from the folded edges. The paper is opened flat. How many holes are in the sheet?

- A. 9
- B. 12
- C. 15
- D. 18

**158.** Three figures are shown. The first is a small black circle, the second is a large black circle, and the third is a medium black circle. Which figure is most like the first three?

- A. a black circle
- B. a white circle
- C. a black square
- D. a striped triangle

**159.** Three figures are shown. The first is a triangle with a dot inside, the second is a square with a dot inside, and the third is a circle with a dot inside. Which figure is most like the first three?

- A. a star with no dot inside
- B. a dot with no shape around it
- C. a star with one dot inside
- D. a hexagon with two dots inside

**160.** Three figures are shown. The first is a black arrow pointing left, the second is a white arrow pointing left, and the third is a striped arrow pointing left. Which figure is most like the first three?

- A. a dotted arrow pointing right
- B. a dotted arrow pointing left
- C. a black arrow pointing up
- D. a white arrow pointing down

**161.** Three figures are shown. The first is a circle with horizontal stripes, the second is a square with horizontal stripes, and the third is a triangle with horizontal stripes. Which figure is most like the first three?

- A. a star with horizontal stripes
- B. a star with vertical stripes
- C. a star with no stripes
- D. a star with dots

**162.** Three figures are shown. The first is a square, the second is a long thin rectangle, and the third is a diamond. Which figure is most like the first three?

- A. a pentagon
- B. a parallelogram
- C. a hexagon
- D. a triangle

**163.** Three figures are shown. The first is a circle, the second is an oval, and the third is a ring. Which figure is most like the first three?

- A. a square
- B. a triangle
- C. an egg shape
- D. a star

**164.** Three figures are shown. The first is a circle with one half shaded black, the second is a square with one half shaded black, and the third is a hexagon with one half shaded black. Which figure is most like the first three?

- A. a diamond that is all black
- B. a diamond that is all white
- C. a diamond with a black dot
- D. a diamond with one half black

**165.** Three figures are shown. The first is a picture of two black circles, the second is two white squares, and the third is two striped triangles. Which figure is most like the first three?

- A. one white star
- B. three white stars
- C. four white stars
- D. two white stars

**166.** Three figures are shown. The first is a small circle in the top left corner of a box, the second is a small square in the top left corner of a box, and the third is a small triangle in the top left corner of a box. Which figure is most like the first three?

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

**167.** Three figures are shown. The first is a circle cut into three parts with one part black, the second is a square cut into three parts with one part black, and the third is a triangle cut into three parts with one part black. Which figure is most like the first three?

- A. a diamond cut into three parts, two parts black
- B. a diamond cut into three parts, one part black
- C. a diamond cut into three parts, no part black
- D. a diamond cut into three parts, all three black

**168.** Three figures are shown. The first is a circle with a straight line from top to bottom through the middle, the second is a square with a vertical line through the middle, and the third is a hexagon with a vertical line through the middle. Which figure is most like the first three?

- A. a triangle with a vertical line through it
- B. a triangle with a horizontal line through it
- C. a triangle with two vertical lines through it
- D. a triangle with no line through it

**169.** Three figures are shown. The first is a circle with a smaller circle inside, the second is a square with a smaller square inside, and the third is a triangle with a smaller triangle inside. Which figure is most like the first three?

- A. a diamond with a small circle inside
- B. a diamond with a smaller diamond inside
- C. a diamond with a small star inside
- D. a diamond with nothing inside

**170.** Three figures are shown. The first is a small circle beside a large square, the second is a small star beside a large circle, and the third is a small triangle beside a large diamond. Which figure is most like the first three?

- A. a small heart beside a large hexagon

- B. a small heart inside a large hexagon
- C. a small heart overlapping a large hexagon
- D. a large heart with a small hexagon inside it

**171.** Three figures are shown. The first is a black square, the second is a black triangle, and the third is a black star. Which figure is most like the first three?

- A. a white hexagon
- B. a black circle
- C. a striped pentagon
- D. a black hexagon

**172.** Three figures are shown. The first is a large circle next to a small circle, the second is a large square next to a small square, and the third is a large triangle next to a small triangle. Which figure is most like the first three?

- A. a large star with a small circle
- B. two large stars
- C. a large star with a small star
- D. a small star with a small circle

**173.** Three figures are shown. The first is a triangle, the second is a pentagon, and the third is a shape with seven sides. Which figure is most like the first three?

- A. a four-sided shape
- B. a six-sided shape
- C. an eight-sided shape
- D. a nine-sided shape

**174.** Three figures are shown. The first is a four-pointed star with a black center, the second is a five-pointed star with a black center, and the third is a six-pointed star with a black center. Which figure is most like the first three?

- A. an eight-pointed star with a black center
- B. an eight-pointed star with a white center
- C. a five-pointed star with a white center
- D. a circle with a black center

**175.** Three figures are shown. The first is a triangle with three dots, the second is a square with four dots, and the third is a pentagon with five dots. Which figure is most like the first three?

- A. a hexagon with five dots
- B. a hexagon with four dots
- C. a hexagon with six dots
- D. a hexagon with seven dots

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

- A. four black stars and three white stars
- B. four black stars and four white stars
- C. two black stars and four white stars
- D. five black stars and four white stars

## Practice Exam 7: Answer Key and Explanations

**1. A** — A cow gives us milk, and a hen gives us eggs, so each pair links an animal with the food it makes. Wool comes from sheep, honey comes from bees, and bacon comes from pigs, so none of those words fit a hen. Only eggs complete the same animal-and-product link that cow and milk show.

**2. B** — A kitten is a young cat, and a duckling is a young duck, so each pair links a baby animal to the kind of animal it grows into. A cow, a hen, and a goat are different animals, and a duckling never becomes any of them. The word duck completes the pattern of young animal and grown-up kind.

**3. D** — A barn is the building where a cow is kept, and a coop is the small building where chickens are kept. Both pairs match a farm home with its animal. A horse, a pig, and a goat live in barns or pens, but none of them belongs in a coop the way a chicken does.

**4. C** — A sheep grows wool that the farmer shears, and a bee makes honey that the beekeeper collects, so each pair links an animal to something it produces. Milk comes from cows, eggs come from hens, and leather comes from cattle hides, so none of those are made by bees. Honey is the only product that fits.

**5. B** — Moo is the sound a cow makes, and quack is the sound a duck makes, so each pair links a sound with the animal that makes it. A hen clucks, a goat bleats, and a horse neighs, so those animals make different sounds. Only the duck quacks, which makes it the match for the sound in the second pair.

**6. D** — A foal is a baby horse, and a lamb is a baby sheep, so each pair links a young animal with its grown-up kind. A cow has a calf, a pig has a piglet, and a duck has a duckling, so none of those three animals grows from a lamb. Sheep is the only word that completes the pattern.

**7. C** — A fin is a body part a fish uses to swim, and a wing is a body part an eagle uses to fly, so each pair links a body part with the animal that has it. A pig and a frog have no wings. A trout is a fish with fins.

**8. A** — Fur covers the body of a rabbit, and feathers cover the body of a goose, so each pair links a body covering with the animal it protects. A pig has bristly skin, a goat has hair, and a sheep has wool. None of those three animals has feathers, so goose is the only choice that fits.

**9. B** — A rabbit is known for hopping quickly, and a turtle is known for moving slowly, so each pair links a speed word with an animal known for it. An eagle, a horse, and a cheetah are all famous for being fast, so they repeat the idea of fast and do not show the opposite. Only the turtle is slow.

**10. C** — A stable is the shelter built for a horse, and a kennel is the shelter built for a dog, so each pair links a special shelter with its animal. A cow lives in a barn, a hen lives in a coop, and a pig lives in a sty. None of them use a kennel, so dog fits.

**11. D** — A shepherd is a worker who looks after sheep, and a cowboy is a worker who looks after cattle, so each pair links a job with the animals cared for. A saddle is gear, a fence is a barrier, and a barn is a building, so none of them are animals that a cowboy herds. Cattle fits the pattern.

**12. A** — A group of hens is called a flock, and a group of cows is called a herd, so each pair links an animal with the word for its group. A pack is a group of wolves, a school is a group of fish, and a swarm is a group of bees. Only herd names cows.

**13. C** — Honey is a favorite food of a bear, and hay is a common food for a horse, so each pair links a food with an animal that eats it. A wolf eats meat, a fox eats small animals and berries, and an owl hunts mice, so none of those three animals eat dry grass. The horse is the best match.

**14. B** — An egg hatches and grows into a chick, and a seed sprouts and grows into a plant, so each pair links a starting stage with what it becomes. A shell is only the covering of an egg, a barn is a building, and a nest is a bird's home. Only plant grows from a seed.

**15. A** — Farmers turn milk into cheese, and they turn wheat into bread after it is ground into flour, so each pair links a farm product with a food made from it. Eggs and wool are made by animals, not made from wheat. Hay is dried grass for feeding animals and is not made from wheat. Bread completes the pattern.

**16. D** — To shear means to cut the wool off a sheep, and to milk means to take milk from a cow, so each pair links a farm job with the animal it is done to. A hen is cared for by collecting eggs, a pig is fed, and a duck is not milked. Only the cow completes the job-and-animal pattern.

**17. A** — A group of fish is called a school, and a group of wolves is called a pack, so each pair links an animal with its group name. A herd is a group of cows or deer, a flock is a group of birds or sheep, and a swarm is a group of bees. Only pack names wolves.

**18. D** — A bear hibernates, which means it sleeps through the cold winter, and a goose migrates, which means it flies far away to a warmer place each year. Each pair links a seasonal habit with an animal known for it. A cow, a pig, and a hen stay on the farm all year, so they do not migrate.

**19. B** — A predator is an animal that hunts others, and a fox hunts for food, while prey is an animal that gets hunted, and a rabbit is hunted by foxes. Each pair links a food-chain word with an animal that fits it. A wolf, a hawk, and an eagle are all hunters, so none of them show what prey means.

**20. C** — A herbivore eats only plants, and a cow eats grass and hay, while a carnivore eats only meat, and a wolf hunts other animals for food. Each pair links a diet word with an animal that fits it. A horse, a sheep, and a rabbit are all plant eaters, so they repeat the herbivore idea and not carnivore.

**21. C** — Cows give milk, and a farmer must collect it each morning, so the word milk makes the sentence sensible. A farmer would not knit a cow, bake a cow, or sail a cow, because none of those actions can be done to cows. Only milk matches a real farm chore that happens early in the day.

**22. D** — Each farm animal has its own name for the young one, and a baby sheep is a lamb. A calf is a baby cow, a chick is a baby hen, and a foal is a baby horse, so each of those fits a different parent animal. Lamb is the only word that matches the sheep in the sentence.

**23. B** — A hen sits on her nest to warm her eggs until the chicks inside are ready to hatch. Milk comes from cows, wool grows on sheep, and hay is dry grass for feeding animals, so none of these are things a hen would sit on to keep warm. Eggs is the only word that makes sense here.

**24. A** — A sheepdog is trained to gather sheep and move them to where the farmer wants them, and that job is called herding. A dog cannot tickle, paint, or borrow sheep in a way that gets them into a pen. Herd is the only word that makes the sentence sensible and fits the sheepdog's job.

**25. D** — Hay is grass that has been cut and dried so animals can eat it through the winter, and farmers keep it in the barn loft. Sand and ice are not eaten by farm animals, and ice would melt inside a barn. Milk is a drink that would spoil if left in a loft. Hay is correct.

- 26. A** — Pigs cannot sweat well, so they roll in mud to cool their skin when the day is hot. The word clean does not fit, because mud makes a pig dirty. Hungry and loud do not explain why a pig would roll in mud. Cool gives the reason for the action and finishes the sentence best.
- 27. B** — Bees visit flowers to gather nectar, a sweet liquid that they carry home and turn into honey. Wool grows on sheep and feathers grow on birds, so a bee would not collect either one from a flower. Corn is a crop that farmers harvest in the field. Nectar is the only item that bees take from flowers.
- 28. C** — A scarecrow looks like a person, and its purpose is to frighten birds so they will not eat the corn seeds. If it were meant to call, feed, or greet the birds, they would come closer and eat the crop. Scare is the only word that matches what a scarecrow is built to do.
- 29. A** — A rooster is famous for crowing when the sun first comes up, and that time is called dawn. Sunset is the end of the day, midnight is the middle of the night, and lunchtime is the middle of the day, so none of them are the time when a farm needs waking. Dawn is the best choice.
- 30. B** — The fox wants to sneak up on the hens without being heard, so it must move quietly through the grass. Noisily is the opposite and would warn the hens right away. Proudly and sleepily describe feelings, and neither explains moving through grass without a sound. Quietly matches the clue about the hens not hearing.
- 31. D** — An animal that eats only plants is called a herbivore, and cows eat only grass and hay, so the word herbivores fits. Carnivores eat meat, and predators hunt other animals, so both are the opposite of a cow. Insects are small six-legged creatures and not a word for a diet. Herbivores is the only word that completes the sentence.
- 32. C** — An animal that has had no water all day would feel thirsty, and that is the clue in the sentence. Cheerful does not fit because a cow without water would not feel happy. A cow cannot be wealthy, and frozen does not match a lack of water. Thirsty is the only word that explains the cow's feeling.
- 33. D** — The goat first jumped over the fence and then ate the carrots, so jumped goes in the first blank and ate goes in the second. Reversing the words says the goat ate a fence and jumped a carrot, which makes no sense. Slept, painted, sang, and built are actions a goat does not do here.
- 34. A** — To grow corn, a farmer plants seeds in the soil, and planting them in neat rows keeps the corn plants straight. Washing or painting seeds would not help corn grow in rows, and lost seeds could not grow at all. Planted is the only word that explains how the rows of corn began.
- 35. B** — A storm that could ruin a crop would make a farmer feel worried, because he might lose the wheat he planted. Pleased would be the opposite feeling, since nobody is glad to lose a crop. Sleepy and generous do not describe a reaction to bad weather. Worried is the only word that matches the danger the farmer sees.
- 36. C** — The sentence says the work got done quicker, so the new tractor must be faster than the old one. Slower would make the work take longer, which is the opposite of the clue. Older and duller do not describe how quickly a machine moves. Faster is the word that matches the clue of quicker work.

**37. D** — A newborn calf has just come into the world, and its legs are not yet ready to hold it steady, so they are weak and wobbly. Strong would make the calf walk well, which is the opposite of wobbling. Tall and fast do not explain the wobble. Weak is the best word and matches the clue.

**38. A** — To keep a horse from wandering off, a rancher would tie its rope to a post. Cutting the rope would let the horse go free, which is the opposite of the plan. A person cannot sing or eat a rope in a way that holds an animal. Tied is the only word that fits the purpose in the sentence.

**39. C** — The word although tells us that the rooster's small size is a surprise given what he did, so the missing word must show a strong trait. A rooster who chases off a big dog is brave. Timid, lazy, and sleepy all describe an animal that would run or rest instead of chasing, so only brave fits.

**40. B** — The clue is that the mare served the family faithfully for twenty years, so the farmer would feel sad about selling her and would not want to. Reluctant means unwilling, which matches that feeling. Delighted and pleased would show happiness, and hurried does not show feeling at all. Reluctant is the best fit.

**41. D** — Cow, pig, and goat are all farm animals that give us food or other products. A sheep is another farm animal, so it joins the group. A barn is a building, hay is dried grass that animals eat, and corn is a crop grown in a field. None of those three is an animal, so only sheep belongs.

**42. A** — Barn, silo, and stable are all buildings on a farm where animals or crops are kept. A coop is a small building for chickens, so it fits with the buildings. A tractor is a machine, a goat is an animal, and wheat is a plant. None of those three are buildings, so coop is the only word that belongs.

**43. B** — Wheat, corn, and oats are all grain crops that farmers grow in fields. Barley is also a grain crop, so it belongs with them. A fence is a barrier that holds animals in, an egg is food from hens, and a pig is an animal. None of those three are plants grown for grain, so barley is the only fit.

**44. C** — Duck, goose, and turkey are all birds that farmers raise for meat or eggs. A chicken is another farm bird, so it belongs. A bat is a flying mammal, not a bird, a trout is a fish, and a frog is an amphibian. None of those three has feathers, so chicken is the only word that fits the group.

**45. A** — Rake, hoe, and shovel are all hand tools that farmers use to work the soil or move materials. A pitchfork is also a hand tool for lifting hay, so it belongs with them. Hay is something that gets lifted, a horse is an animal, and a barn is a building. None are hand tools, so pitchfork fits.

**46. B** — Milk, cheese, and butter are all dairy foods that are made from the milk of a cow. Yogurt is also made from milk, so it joins them. Bread is made from flour, honey is made by bees, and wool comes from sheep. None of those three come from cow's milk, so yogurt belongs.

**47. D** — Foal, calf, and lamb are all names for baby farm animals. A piglet is a baby pig, so it joins the group. A bull is a grown male cow, a hen is a grown female chicken, and a mare is a grown female horse. Those three are adults, so only piglet belongs with the young animals.

**48. C** — Moo, quack, and oink are all sounds that farm animals make. Baa is the sound a sheep makes, so it belongs in the group. A tail is a body part, a leaf is part of a plant, and hay is dried grass. None of those three is a sound an animal makes, so baa is the only word that fits.

**49. C** — Beak, wing, and feather are all body parts of a bird. A talon is the sharp claw of a bird of prey, so it belongs with them. A horn grows on a cow or goat, a hoof is on a horse or cow, and a snout is on a pig. Those three are parts of mammals, so only talon fits.

**50. B** — Trot, gallop, and canter are all ways that a horse moves, called gaits. A walk is also a horse gait, so it belongs. A horse does not swim or fly as a normal way of moving, and a horse does not hop. Walk is the only word that names another way a horse moves along the ground.

**51. D** — Bee, ant, and beetle are all insects, which have six legs and three body parts. A wasp is also an insect, so it joins the group. A spider has eight legs, a worm has no legs, and a snail has a shell and one foot, so none of those three are insects. Only wasp fits the group.

**52. A** — Fox, wolf, and coyote are all members of the dog family, so they have similar bodies and share a long snout. A dog belongs to that same family. A cat is in the cat family, a bear is in the bear family, and a rabbit is a small plant eater. Dog is the only word that fits the group.

**53. C** — Frog, toad, and salamander are all amphibians, which are animals that start life in water and later live on land. A newt is also an amphibian, so it belongs. A lizard, a snake, and a turtle are reptiles with dry scaly skin that lay eggs on land, so they are a different group. Newt is the only answer.

**54. A** — Eagle, hawk, and owl are all birds of prey, which means they hunt other animals using sharp claws and beaks. A falcon is also a hunting bird, so it belongs. A robin, a duck, and a sparrow are birds, but they eat seeds, worms, or plants and do not hunt. Falcon is the only word that fits.

**55. B** — Milk, shear, and herd are all jobs a farmer does while caring for animals. To feed means to give animals their food each day, so it joins the group. Sleep, swim, and read are actions that people can do anywhere, and none of them is a farm chore for animals. Feed is the only word that belongs.

**56. D** — Mare, stallion, and foal are all names for horses, a grown female, a grown male, and a baby. A pony is a small kind of horse, so it joins the group. A ram is a male sheep, a sow is a female pig, and a bull is a male cow. None of those three are horses, so only pony belongs.

**57. B** — Sow, boar, and piglet are all names for pigs, a grown female, a grown male, and a baby. A hog is another word for a pig, so it belongs. A ram is a male sheep, a mare is a female horse, and a doe is a female deer. Those three are other animals, so only hog fits.

**58. D** — Cob, husk, and kernel are all parts of an ear of corn. The stalk is the tall stem that the corn ear grows on, so it is also a corn part. A rind covers a melon, a shell covers a nut, and a pit is inside a peach. Those belong to other foods, so stalk is correct.

**59. C** — Omnivore, herbivore, and carnivore are all words that name what kind of food an animal eats. An insectivore is an animal that eats mainly insects, so it belongs with them. A habitat, a burrow, and a nest are all places where animals live, which is a different idea. Only insectivore describes a diet.

**60. A** — In  $3 : 8$  and  $6 : 11$ , the second number is 5 more than the first, since 3 plus 5 is 8 and 6 plus 5 is 11. Adding 5 to 10 gives 15. The choice 20 doubles 10, which fails for  $3 : 8$ . The choices 16 and 14 add 6 and 4, so neither follows the rule.

**61. D** — In  $9 : 4$  and  $15 : 10$ , the second number is 5 less than the first, since 9 minus 5 is 4 and 15 minus 5 is 10. Taking 5 from 20 gives 15. The choice 25 adds 5 instead of subtracting it, and the choices 14 and 16 take away 6 and 4, so neither fits.

**62. A** — In  $4 : 12$  and  $6 : 18$ , the second number is three times the first, since 4 times 3 is 12 and 6 times 3 is 18. Tripling 7 gives 21. The choice 14 only doubles the number, the choice 28 multiplies by 4, and the choice 17 adds 10, so each breaks the rule.

**63. B** — In  $20 : 4$  and  $35 : 7$ , the second number is one fifth of the first, since 20 divided by 5 is 4 and 35 divided by 5 is 7. Dividing 45 by 5 gives 9. The choice 40 subtracts 5, the choice 15 divides by 3, and the choice 11 fits neither pair.

**64. C** — In  $7 : 14$  and  $9 : 16$ , the second number is 7 more than the first, since 7 plus 7 is 14 and 9 plus 7 is 16. Adding 7 to 12 gives 19. The choice 24 doubles 12, which fails for  $9 : 16$ . The choices 21 and 18 add 9 and 6, so neither fits.

**65. B** — In  $12 : 5$  and  $20 : 13$ , the second number is 7 less than the first, since 12 minus 7 is 5 and 20 minus 7 is 13. Taking 7 from 30 gives 23. The choice 37 adds 7, going the wrong way. The choices 22 and 25 subtract 8 and 5, so neither fits.

**66. C** — This rule has two steps: double the first number, then add 1. Since 3 doubled plus 1 is 7, and 9 doubled plus 1 is 19, both pairs fit. Doubling 12 gives 24, and adding 1 gives 25. The choice 24 forgets the last step, 26 adds 2, and 15 adds only 3, which fits neither pair.

**67. A** — In  $6 : 2$  and  $15 : 5$ , the second number is one third of the first, since 6 divided by 3 is 2 and 15 divided by 3 is 5. Dividing 24 by 3 gives 8. The choice 18 subtracts 6, which fails for  $15 : 5$ . The choice 12 halves the number, and 21 subtracts only 3.

**68. D** — In  $2 : 10$  and  $3 : 15$ , the second number is five times the first, since 2 times 5 is 10 and 3 times 5 is 15. Multiplying 8 by 5 gives 40. The choice 13 adds 5, which fits neither pair. The choice 35 is five times 7, and 48 is six times 8, so neither fits.

**69. D** — In  $30 : 24$  and  $50 : 44$ , the second number is 6 less than the first, since 30 minus 6 is 24 and 50 minus 6 is 44. Taking 6 from 70 gives 64. The choice 76 adds 6 and goes the wrong way. The choices 62 and 66 take away 8 and 4, so neither fits.

**70. B** — In  $11 : 5$  and  $15 : 9$ , the second number is 6 less than the first, since 11 minus 6 is 5 and 15 minus 6 is 9. Taking 6 from 23 gives 17. The choice 29 adds 6 and goes the wrong way. The choices 19 and 15 subtract 4 and 8, so only 17 follows the rule.

**71. A** — This rule has two steps: multiply the first number by 5, then subtract 1. Since 4 times 5 minus 1 is 19, and 6 times 5 minus 1 is 29, both pairs fit. Nine times 5 is 45, and minus 1 is 44. The choice 45 forgets the subtraction, 54 multiplies by 6, and 36 multiplies by 4.

**72. C** — In  $45 : 15$  and  $60 : 20$ , the second number is one third of the first, since 45 divided by 3 is 15 and 60 divided by 3 is 20. Dividing 75 by 3 gives 25. The choice 15 divides by 5, the choice 37 is about half, and 55 subtracts 20, so none fit both pairs.

**73. C** — This rule has two steps: double the first number, then add 4. Since 8 doubled plus 4 is 20, and 10 doubled plus 4 is 24, both pairs fit. Doubling 13 gives 26, and adding 4 gives 30. The choice 26 forgets the last step, 33 adds 20, and 36 adds 23, so neither one fits.

**74. D** — In  $40 : 32$  and  $25 : 17$ , the second number is 8 less than the first, since 40 minus 8 is 32 and 25 minus 8 is 17. Taking 8 from 60 gives 52. The choice 68 adds 8 and goes the wrong way. The choices 50 and 48 take away 10 and 12, so neither fits.

**75. B** — In  $3 : 21$  and  $5 : 35$ , the second number is seven times the first, since 3 times 7 is 21 and 5 times 7 is 35. Multiplying 9 by 7 gives 63. The choice 56 is seven times 8, and 72 is eight times 9. The choice 49 is seven times 7.

**76. A** — In  $36 : 9$  and  $60 : 15$ , the second number is one fourth of the first, since 36 divided by 4 is 9 and 60 divided by 4 is 15. Dividing 84 by 4 gives 21. The choice 80 subtracts 4, the choice 28 divides by 3, and the choice 42 divides by 2, so none fit.

**77. B** — This rule has two steps: multiply the first number by 3, then add 2. Since 7 times 3 plus 2 is 23, and 9 times 3 plus 2 is 29, both pairs fit. Twelve times 3 is 36, and adding 2 gives 38. The choice 36 forgets the last step, 39 adds 3, and 31 adds 19.

**78. D** — In  $15 : 60$  and  $8 : 32$ , the second number is four times the first, since 15 times 4 is 60 and 8 times 4 is 32. Multiplying 25 by 4 gives 100. The choice 75 triples the number, the choice 125 multiplies by 5, and the choice 29 adds 4, so each breaks the rule.

**79. C** — This rule has two steps: multiply the first number by 4, then add 1. Since 6 times 4 plus 1 is 25, and 9 times 4 plus 1 is 37, both pairs fit. Thirteen times 4 is 52, and adding 1 gives 53. The choice 52 forgets the last step, 17 adds 4, and 43 adds 30.

**80. A** — To find the missing number, subtract: 25 minus 9 equals 16, and 9 plus 16 checks back to 25. The choice 34 comes from adding 9 and 25 instead of subtracting them. The choices 15 and 17 are each off by one, a common slip when counting up from 9, and neither one makes the equation equal 25.

**81. C** — Think of what must be taken away from 30 to leave 12. That is 30 minus 12, which equals 18, and 30 minus 18 checks back to 12. The choice 42 comes from adding 30 and 12, which is the wrong operation. The choices 17 and 19 are off by one, so neither leaves 12.

**82. D** — Division undoes multiplication, so 54 divided by 9 gives 6, and 6 times 9 checks back to 54. The choice 45 comes from subtracting 9 from 54, and the choice 63 comes from adding 9 to 54, so both use the wrong operation. The choice 5 would give 5 times 9, which is 45, not 54.

**83. A** — To find the number that 96 is divided by, divide 96 by 16, which gives 6. Check it: 96 divided by 6 equals 16. The choice 80 comes from subtracting 16 from 96, and the choice 112 comes from adding 16 to 96, so both use the wrong operation. The choice 8 gives 12, not 16.

**84. B** — Two equal numbers that add up to 34 must each be half of 34, which is 17, and 17 plus 17 checks back to 34. The choice 68 doubles 34 instead of halving it. The choices 16 and 18 are each off by one, so 16 plus 16 gives only 32 and 18 plus 18 gives 36.

**85. A** — The same number times itself must make 36, and 6 times 6 equals 36. The choice 18 is half of 36 and comes from splitting the total instead of multiplying. The choice 9 gives 9 times 9, which is 81, and the choice 12 gives 12 times 12, which is 144, so both are too big.

**86. B** — Try each sign. Fifteen divided by 3 equals 5, so divided by makes the statement true. Fifteen plus 3 equals 18, fifteen minus 3 equals 12, and fifteen times 3 equals 45, so all three of those signs give answers that are far from 5. Only division brings 15 down to 5, so it is the correct sign.

**87. C** — First add the numbers on the right side, since 9 plus 8 is 17. Then the blank minus 14 must equal 17, so the blank is 17 plus 14, which is 31. The choice 17 is only the sum. The choice 23 comes from adding 9 and 14, and the choice 3 comes from subtracting 14 from 17.

**88. D** — Work backward in two steps. Subtract 5 from 33 to get 28, which is what 4 times the blank must equal. Then 28 divided by 4 gives 7, and 4 times 7 plus 5 checks back to 33. The choice 28 is the in-between number, while 9 gives 41 and 8 gives 37, so neither works.

**89. C** — First work out the right side, since 5 times 7 is 35. Then the blank plus 19 must equal 35, so the blank is 35 minus 19, which is 16. The choice 35 is the product and not the missing number, and 54 comes from adding 19 to 35. The choice 14 gives only 33.

**90. D** — Try each sign. Thirty-one minus 14 equals 17, so minus makes the statement true. Thirty-one plus 14 equals 45, thirty-one times 14 equals 434, and thirty-one divided by 14 is a little over 2, so all three of those signs give answers far from 17. Only subtraction brings 31 down to 17.

**91. A** — First work out the right side, since 3 times 9 is 27. Then 50 minus the blank must equal 27, so the blank is 50 minus 27, which is 23. The choice 27 is the product and not the missing number, and 77 comes from adding 50 and 27. The choice 14 leaves 36, not 27.

**92. B** — Work backward in two steps. Subtract 4 from 10 to get 6, which is what the blank divided by 5 must equal. Then 6 times 5 gives 30, and 30 divided by 5 plus 4 checks back to 10. The choice 6 is the in-between number, 34 adds 4 to 30, and 50 is 10 times 5, so none work.

**93. D** — Work backward in two steps. Add 7 to 20 to get 27, which is what 3 times the blank must equal. Then 27 divided by 3 gives 9, and 3 times 9 minus 7 checks back to 20. The choice 27 is the in-between number, while 11 gives 26 and 7 gives 14, so neither makes the equation equal 20.

**94. A** — Try each sign. Twelve times 6 equals 72, so times makes the statement true. Twelve plus 6 equals 18, twelve minus 6 equals 6, and twelve divided by 6 equals 2, so all three of those signs give answers far away from 72. Only multiplication reaches 72, so it is the correct sign.

**95. C** — Three equal numbers that add up to 27 must each be one third of 27, which is 9, and 9 plus 9 plus 9 checks back to 27. The choice 24 comes from subtracting 3 from 27, which is the wrong operation. The choice 3 is the count of numbers, and 8 gives only 24, so neither works.

**96. B** — The same number times itself must make 64, and 8 times 8 equals 64. The choice 32 is half of 64 and comes from splitting the total in two instead of multiplying. The choice 16 gives 16 times 16, which is 256, and the choice 9 gives 9 times 9, which is 81, so both are too big.

**97. D** — Work backward in two steps. Divide 36 by 3 to get 12, which is what the blank plus 4 must equal. Then 12 minus 4 gives 8, and 8 plus 4, times 3, checks back to 36. The choice 12 is the in-between number, and 16 would give 60. The choice 40 is far too large.

**98. B** — Add 6 to 20, so the two equal blanks must total 26. Then each blank is half of 26, which is 13, and 13 plus 13 minus 6 checks back to 20. The choice 26 is the total and not one blank, while 10 gives 14 and 16 gives 26, so neither equals 20.

**99. C** — The numbers go up by 19 each time, since 19 plus 19 is 38, 38 plus 19 is 57, and 57 plus 19 is 76. Adding 19 more to 76 gives 95. The choice 90 adds 14, the choice 114 adds 38, and the choice 84 adds 8, so none of them keep the same steady step of 19.

**100. A** — The numbers go down by 10 each time, since 120 minus 10 is 110, 110 minus 10 is 100, and 100 minus 10 is 90. Taking 10 from 90 gives 80. The choice 70 skips down by 20, the choice 85 subtracts only 5, and the choice 75 subtracts 15, so each breaks the steady step of 10.

**101. A** — The numbers go down by 7 each time, since 145 minus 7 is 138, 138 minus 7 is 131, and 131 minus 7 is 124. Taking 7 from 124 gives 117. The choice 110 skips down by 14, the choice 120 subtracts only 4, and the choice 115 subtracts 9, so none of them continue the steady step of 7.

**102. D** — The numbers go down by 5 each time, since 100 minus 5 is 95, 95 minus 5 is 90, and 90 minus 5 is 85. Taking 5 from 85 gives 80. The choice 75 skips down by 10, the choice 70 skips down by 15, and the choice 82 subtracts only 3, so each breaks the steady step of 5.

**103. C** — Each number is double the one before it, since 2 times 2 is 4, 4 times 2 is 8, and 8 times 2 is 16. Doubling 16 gives 32. The choice 24 adds 8, the choice 20 adds 4, and the choice 18 adds only 2, so none of them continue the doubling.

**104. B** — The gaps grow by one each time: plus 2, plus 3, plus 4, plus 5. The next gap is plus 6, and 21 plus 6 is 27. The choice 26 adds only 5, repeating the last gap, the choice 28 adds 7, which skips a step, and the choice 30 adds 9, so none follow the growing pattern.

**105. C** — Each number is three times the one before it, since 7 times 3 is 21, 21 times 3 is 63, and 63 times 3 is 189. Tripling 189 gives 567. The choice 378 doubles 189, the choice 252 adds 63, and the choice 756 multiplies by 4, so none of them continue the multiplying by 3.

**106. B** — Each number is half of the one before it, since 240 divided by 2 is 120, 120 divided by 2 is 60, and 60 divided by 2 is 30. Halving 30 gives 15. The choice 10 divides by 3, the choice 20 subtracts 10, and the choice 25 subtracts only 5, so none of them continue the halving.

**107. D** — The gaps grow by one each time: plus 1, plus 2, plus 3, plus 4. The next gap is plus 5, and 20 plus 5 is 25. The choice 24 adds only 4, repeating the last gap, the choice 26 adds 6, which skips a step, and the choice 30 adds 10, so none follow the growing pattern.

**108. A** — The numbers go down by 3 each time, since 31 minus 3 is 28, 28 minus 3 is 25, and 25 minus 3 is 22. Taking 3 from 22 gives 19. The choice 18 subtracts 4, the choice 20 subtracts only 2, and the choice 16 subtracts 6, so none of them keep the same steady step of 3.

**109. B** — The gaps grow by one each time: minus 5, minus 6, minus 7, minus 8. The next gap is minus 9, and 24 minus 9 is 15. The choice 16 subtracts only 8, repeating the last gap, the choice 14 subtracts 10, which skips a step, and the choice 17 subtracts 7, so none follow the growing pattern.

**110. A** — Two patterns are mixed together. The first, third, and fifth numbers are 1, 2, 3, which count up by 1, so the next one in that pattern is 4. The others, 3, 4, 5, also count up by 1, but the next spot belongs to the first pattern. The choice 6 is the next number of the other pattern.

**111. C** — The pattern alternates between two steps: times 4, then divided by 2. Five times 4 is 20, 20 divided by 2 is 10, 10 times 4 is 40, 40 divided by 2 is 20, and 20 times 4 is 80. The next step is divided by 2, so 80 becomes 40. The choice 160 doubles instead.

**112. D** — Two patterns are mixed together. The first, third, fifth, and seventh numbers are 2, 4, 6, 8, which go up by 2. The others, 50, 45, 40, go down by 5. The next spot belongs to the falling pattern, so it is 40 minus 5, or 35. The choice 10 is the next number of the rising pattern.

**113. A** — The gaps double each time: plus 1, plus 2, plus 4, plus 8. The next gap is plus 16, and 20 plus 16 is 36. Or double each number and subtract 4. The choice 40 is simply double 20, the choice 28 adds only 8, repeating the last gap, and the choice 34 adds 14, which does not match.

**114. B** — The pattern alternates between two steps: plus 3, then minus 1. Five plus 3 is 8, 8 minus 1 is 7, and 7 plus 3 is 10, and so on. The next step is minus 1, so 12 becomes 11. The choice 14 adds 2 and 13 adds 1, so each does the wrong step.

**115. C** — The gaps grow by two each time: plus 11, plus 13, plus 15, plus 17. The next gap is plus 19, and 81 plus 19 is 100. They are squares: 5 times 5, 6 times 6, and so on, so 10 times 10 is next. The choice 90 adds 9, 99 adds 18, and 121 is 11 times 11.

**116. D** — Two patterns are mixed together. The first, third, and fifth numbers are 2, 4, 6, which go up by 2, so the next one in that pattern is 8. The others, 7, 14, 21, go up by 7, but the next spot belongs to the first pattern. The choice 28 is the next number of the other pattern.

**117. B** — Each number is double the last plus 1, since 3 times 2 plus 1 is 7, 7 times 2 plus 1 is 15, and 15 times 2 plus 1 is 31. Doubling 63 gives 126, and adding 1 gives 127. The choice 126 forgets the last step, 95 adds only 32, and 125 takes away 1, so none fit.

**118. D** — The pattern has two steps that repeat: times 2, then minus 2. Six times 2 is 12, 12 minus 2 is 10, 10 times 2 is 20, and 20 minus 2 is 18. The next step is minus 2, so 36 becomes 34. The choice 72 doubles again, while 32 and 38 take away 4 and add 2.

**119. A** — Across the top row, the circle stays large and keeps its shape, but its shade changes from white to black. Applying that change to the large white diamond gives a large black diamond. The large

white diamond repeats the first figure, the small black diamond changes the size by mistake, and the large black circle changes the shape back.

**120. C** — Going across each row, the shape stays the same and the shade changes from white to black. The square on top changes from white to black, so the circle below becomes a black circle. The white circle shows no change, the black square changes the shape back, and the striped circle uses a new shade.

**121. D** — Across the top row, the shape and shade stay the same, but the number of stars goes up by one, from one to two. The bottom row should also add one, so three black triangles become four black triangles. Three black triangles shows no change, four white triangles changes the shade, and four black stars changes the shape.

**122. A** — The top row adds one circle at each step, going from one to two to three. The bottom row follows the same count pattern, so after one square and two squares comes three squares. Two large black squares repeats the middle box, while small squares and white squares change the size or shade.

**123. C** — Across the top row, the two shapes trade places, while the inner shape stays black and the outer shape stays white. So the triangle and the diamond must trade places too, giving a black diamond inside a white triangle. The first choice repeats the left box, the second swaps the colors, and the third brings back a square.

**124. B** — Across the top row, the arrow turns a quarter turn clockwise, from up to right, and changes from white to black. Turning the down arrow a quarter turn clockwise makes it point left, and turns black. The black right arrow turns the wrong way, the white left arrow keeps white, and the black up arrow turns too far.

**125. C** — In the top row, the shape gains one side, going from a triangle with three sides to a square with four sides. The pentagon has five sides, so adding one side gives a striped hexagon. The octagon adds three sides, the black hexagon changes the shade, and the striped pentagon is unchanged.

**126. A** — The top row moves through three shades in order, white, then striped, then black, while the shape stays the same. The bottom row uses the same three shades with triangles, so the last box must be black. A striped triangle and a white triangle repeat shades already used, and a black circle has the right shade but the wrong shape.

**127. D** — The top row adds one dot at each step, from no dots to one dot to two dots. The bottom row follows the same pattern, so the missing square needs two dots, and it stays white. Three dots jumps ahead by one too many, the black square changes the shade, and the square with one dot repeats the middle box.

**128. B** — The top row flips the triangle from left to right, moving the square corner from bottom left to bottom right. The same flip on the top left triangle moves its square corner to the top right. Top left repeats the first box, and the two bottom corners flip the triangle upside down by mistake.

**129. C** — Each row and each column holds a circle, a square, and a triangle exactly once. The third row already has a triangle and a circle, so it needs a square. A circle or a triangle would repeat in the row, and a star is a shape that never appears in the grid.

**130. B** — The top row grows from small to medium to large while the shape and shade stay the same. The bottom row follows that growth, so after small and medium comes large, and the square stays black. A medium black square repeats the middle box, a large white square changes the shade, and a large black circle changes the shape.

**131. A** — In the top row, the third box matches the first box exactly, the same white circle. So in the bottom row, the third box must match the first box, the white triangle. A black triangle changes the shade, a white star copies the middle shape, and a black star copies the whole middle box, so each breaks the pattern.

**132. D** — Across the top row, two things change at once: the square gets smaller and its shade turns from white to black. The pentagon must get smaller and turn black too, giving a small black pentagon. The small white pentagon changes only the size, the large black pentagon changes only the shade, and the small black square changes the shape back.

**133. C** — In every row, the third box combines the shapes from the first two boxes. The first row joins a circle and a plus sign, and the second joins a triangle and a star. The third row has a square and a heart, so both must appear together. The others use shapes from other rows.

**134. A** — The shaded part moves one step clockwise each time, from top left to top right to bottom right. The bottom row follows the same path, so after top left and top right comes the bottom right quarter. Bottom left would be the step after that, while top left and top right repeat quarters already shown in this row.

**135. D** — Each row and each column holds one white, one striped, and one black circle. The third row already has a black and a white circle, so it needs a striped one. White or black would repeat a shade in the row, and a dotted circle uses a shade that never appears.

**136. B** — In each row, the second box has twice as many dots as the first and the third box has three times as many. In row three, the first box has 3 dots, so the last must have 3 times 3, which is 9. Eight and seven fit no multiple of 3, and twelve is 3 times 4.

**137. A** — Each row climbs one side at a time: row one has 3, 4, and 5 sides, and row two has 4, 5, and 6 sides. Row three begins with 5 and 6 sides, so the last box must have 7 sides. A six-sided shape repeats the middle box, an eight-sided shape skips one step, and a five-sided shape goes backward.

**138. D** — The third box copies the shape from the first box and the shade from the second box. In row one, a circle and a black square make a black circle. In row three, a square and a black diamond make a black square. The diamonds take the wrong shape, and the white square the wrong shade.

**139. B** — Folding the sheet in half stacks two layers of paper. One punch goes through both layers, so it makes one hole in each half of the opened sheet, giving 2 holes. The answer 1 forgets the hidden layer, the answer 3 adds a hole that nothing makes, and the answer 4 would need two folds.

**140. C** — The single fold makes two layers, so each punch goes through two sheets of paper and makes two holes when opened. Two punches then make 2 times 2, which is 4 holes. The answer 2 counts only the punches, forgetting the hidden layer, the answer 3 misses a hole, and the answer 6 would need three layers.

**141. D** — Two folds in half stack four layers, since 2 times 2 is 4. One punch goes through every layer, so it makes four holes when the paper is opened. The answer 2 counts only one fold, the answer 1 counts only the punch, and the answer 8 would need a third fold, which the paper did not have.

**142. B** — The fold from top to bottom makes two layers, so each punch goes through two sheets and makes two holes. Three punches make 3 times 2, which is 6 holes. The answer 3 counts only the punches and forgets the hidden layer, the answer 4 adds one too few, and the answer 9 multiplies by three.

**143. C** — A letter fold stacks the sheet into three layers. One punch goes through all three layers, so it makes one hole in each part of the opened sheet, giving 3 holes. The answer 2 treats the fold as if it had only two layers, the answer 4 would need four layers, and the answer 6 doubles it.

**144. A** — The crease becomes the middle line when the sheet is opened, and the hole is copied on both sides of it. A hole close to the crease, halfway up, makes two holes close to the middle line. One hole on the line forgets the copy, and the others move the holes to the edge or corners.

**145. B** — The crease is the middle line, and the open edges are the top and bottom edges. A hole near the open edge is copied across the crease, so one hole sits near the top edge and one near the bottom edge. Two holes near the bottom ignore the copy, and the last choice is near the middle line.

**146. D** — The diagonal fold makes two layers, so one punch makes two holes. They are mirror images, one on each side of the crease, since the crease acts as a mirror. A hole on the crease needs a punch on the fold. Two holes on the same side break the mirror rule, and four holes would need a second fold.

**147. C** — Two folds in half stack four layers, and each of the two punches goes through every layer. That gives 2 punches times 4 layers, which is 8 holes. The answer 4 counts only one punch, the answer 6 adds the layers wrongly, and the answer 10 adds extra holes that nothing makes.

**148. A** — Each fold doubles the number of layers, so three folds make 2 times 2 times 2, which is 8 layers. One punch goes through all eight, so the opened sheet has 8 holes. The answer 6 adds the folds instead of doubling, the answer 4 stops after two folds, and the answer 16 doubles once too often.

**149. B** — The first fold makes two layers, and folding the triangle in half again doubles them to four layers. One punch goes through every layer, so the opened sheet has 4 holes. The answer 2 counts only the first fold, the answer 3 miscounts the layers, and the answer 8 would need a third fold, which the paper did not have.

**150. C** — Two folds make four layers, since 2 times 2 is 4. Each of the three punches goes through all four layers, so the sheet has 3 times 4, which is 12 holes. The answer 6 uses only two layers, the answer 9 uses three layers, and the answer 8 counts the layers of a third fold.

**151. A** — Two folds make four layers, and each of the five punches goes through all four layers. That gives 5 times 4, which is 20 holes. The answer 10 uses only two layers, the answer 15 uses three layers, and the answer 9 adds 5 and 4 instead of multiplying them, so only 20 matches the folds and punches.

**152. D** — The two folds cut the sheet into four equal quarters stacked together, so one punch makes one hole in each quarter. Since the hole was far from both creases, the four holes sit away from the middle lines. A line down the middle would need the hole on a crease, and the last two have too few holes.

**153. A** — The corner where the two open edges meet is the outer corner of the sheet. Each fold copies the hole across a crease, so the hole appears near all four corners of the opened sheet. A line down the middle would need the hole near a crease. Two holes or one hole count too few layers.

**154. C** — The hole is close to the horizontal middle line, so each copy lands just above or below it. Far from the left crease means near the right edge, with a copy near the left. So a pair sits near each side edge. Corners need a hole far from both creases, and top and bottom pairs reverse the places.

**155. B** — The hole sits near the left edge, so both copies stay on the left side. The crease is the middle line, so the hole is copied across it, giving one hole just above the line and one just below. Two holes above the line ignore the mirror, and one hole on the line forgets the copy.

**156. D** — Two folds make four layers, and the triangle punch goes through every layer, so it makes 4 triangle holes. The circle punch makes 4 circle holes, but the question asks only about the triangles. The answer 2 counts only two layers, the answer 1 counts only the punch itself, and the answer 8 counts every hole of both shapes together.

**157. D** — The letter fold makes three layers, and folding in half doubles them to six layers. Each of the three punches goes through all six layers, so the opened sheet has 3 times 6, which is 18 holes. The answer 9 uses only three layers, the answer 12 uses only four layers, and the answer 15 adds wrongly.

**158. A** — All three figures are circles, and all three are black, while the size changes from one to the next. A black circle matches the two things that stay the same. A white circle changes the shade, a black square changes the shape, and a striped triangle changes both the shade and the shape, so none of them match.

**159. C** — The outer shape changes each time, but every figure has exactly one dot inside it. A star with one dot inside keeps that feature. A star with no dot is missing the dot, a lone dot has no outer shape, and a hexagon with two dots has two dots, so none of them match the one-dot idea.

**160. B** — The shade changes in every figure, so shade is not the rule. What stays the same is that every arrow points left. A dotted arrow pointing left keeps the direction, and a new shade is fine. The arrows pointing right, up, and down all change the direction, so none of them are like the first three.

**161. A** — The shapes keep changing, but every figure is filled with horizontal stripes. A star with horizontal stripes keeps that feature. A star with vertical stripes turns the lines the wrong way, a star with no stripes has no lines, and a star with dots has a different fill, so none of them match the first three.

**162. B** — A square, a rectangle, and a diamond each have exactly four straight sides, so they all belong to the group of four-sided shapes. A parallelogram also has four sides, so it matches. A pentagon has five sides, a hexagon has six sides, and a triangle has three sides, so none of those have the same number of sides.

**163. C** — A circle, an oval, and a ring all have smooth, round edges with no corners. An egg shape is also smooth, with no corners, so it matches the others. A square has four sharp corners, a triangle has three, and a star has ten, so each of those has corners that the first three figures do not have.

**164. D** — Each figure has exactly one half shaded black and the other half white. A diamond with one half black keeps that split. A diamond that is all black or all white has no split, and a diamond with only a black dot has a small spot and not a whole half, so none of them match.

**165. D** — Each figure shows exactly two shapes, and the kind of shape and the shade change each time. Two white stars keeps the count of two. One white star has too few shapes, three white stars has one too many, and four white stars has twice as many, so only two white stars is most like the first three.

**166. C** — The shape changes each time, but every small figure sits in the top left corner of its box. A small star in the top left corner keeps that position. The stars in the top right, bottom left, and bottom right corners all move to a different place, so they break the one thing the first three figures share.

**167. B** — Every figure has three parts, and exactly one of them is black. A diamond cut into three parts with one black keeps both facts. Two black parts, no black part, and three black parts all change the number of black pieces, so each one fails to match the first three figures.

**168. A** — Every figure is cut by one vertical line through the middle. A triangle with one vertical line keeps that feature. A horizontal line goes the wrong way, two vertical lines have one line too many, and a triangle with no line has none, so only the single vertical line matches the first three figures.

**169. B** — In every figure, the shape inside is the same kind as the outer shape, only smaller. A diamond with a smaller diamond inside follows that rule. A small circle or a small star inside is a different shape from the diamond, and a diamond with nothing inside is missing the inner shape, so none of them match the first three.

**170. A** — In every figure, a small shape sits outside a large shape and does not touch it. A small heart beside a large hexagon matches this. A small heart inside the hexagon moves into the large shape, overlapping makes the two shapes cross, and a small hexagon inside a large heart puts one shape inside the other, so none match.

**171. D** — All three figures are black, and all three have straight sides and sharp corners. A black hexagon has both features. A white hexagon has corners but the wrong shade, a black circle has the right shade but no corners, and a striped pentagon has corners but a different shade, so each fails one shared feature.

**172. C** — Every figure shows one large shape and one small shape of the same kind. A large star with a small star matches that idea. A large star with a small circle mixes two different shapes, two large stars have no small shape, and a small star with a small circle has no large shape, so none match.

**173. D** — The shapes have 3, 5, and 7 sides, and every one of those numbers is odd. A nine-sided shape is odd as well, so it matches. A shape with four, six, or eight sides has an even number of sides, so none of those three are like the first three figures, and only nine fits the rule.

**174. A** — Every figure is a star with a black center, and the number of points changes each time. An eight-pointed star with a black center is a star and has the black center. An eight-pointed star with a white center loses the black center, a five-pointed star with a white center does the same, and a circle is not a star.

**175. C** — In every figure, the number of dots equals the number of sides: 3 for the triangle, 4 for the square, and 5 for the pentagon. A hexagon has 6 sides, so it needs 6 dots. Four dots, five dots, and seven dots do not equal 6, so each of them breaks the rule that the first three figures follow.

**176. B** — In each figure, the number of black shapes equals the number of white shapes: one and one, two and two, then three and three. Four black stars and four white stars keeps that match. The other choices have uneven counts, such as four and three, two and four, and five and four, so they break the rule.