

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

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## VERBAL BATTERY

**Recommended Time: 30 Minutes — 60 Questions**

**Do not turn back to a previous section or go ahead to the next section.**

### Section 1: Verbal Analogies (Questions 1–24)

Directions: In each question below, the first two words go together in a certain way. Choose the answer that goes with the third word in the same way.

1. sugar : sweet :: lemon : \_\_\_\_\_

- A. fruit
- B. yellow
- C. juice
- D. tree
- E. sour

2. painter : canvas :: writer : \_\_\_\_\_

- A. pen
- B. story
- C. paper
- D. desk
- E. library

3. ship : harbour :: airplane : \_\_\_\_\_

- A. hangar
- B. sky
- C. wing
- D. pilot
- E. ticket

4. paw : cat :: hoof : \_\_\_\_\_

- A. farm
- B. gallop
- C. shoe
- D. horse
- E. barn

5. empty : fill :: destroy : \_\_\_\_\_

- A. ruin
- B. build
- C. break
- D. crush
- E. damage

6. lettuce : salad :: flour : \_\_\_\_\_

- A. wheat
- B. white
- C. bag
- D. mill
- E. bread

7. ant : colony :: wolf : \_\_\_\_\_

- A. dog
- B. forest
- C. pack
- D. fur
- E. howl

8. photograph : camera :: painting : \_\_\_\_\_

- A. brush
- B. frame
- C. gallery
- D. colour
- E. museum

9. transparent : opaque :: flexible : \_\_\_\_\_

- A. bent
- B. soft
- C. thin
- D. rigid
- E. rubber

10. wick : candle :: filament : \_\_\_\_\_

- A. wire
- B. bulb
- C. glass
- D. lamp
- E. bright

11. cub : lion :: lamb : \_\_\_\_\_

- A. wool
- B. farm
- C. grass
- D. small
- E. sheep

12. menu : restaurant :: catalogue : \_\_\_\_\_

- A. store
- B. book
- C. shelf
- D. product
- E. page

13. ankle : leg :: wrist : \_\_\_\_\_

- A. hand
- B. watch
- C. arm
- D. finger
- E. bone

14. volcano : eruption :: earthquake : \_\_\_\_\_

- A. damage
- B. ground
- C. geology
- D. tremor
- E. mountain

15. flour : bake :: yarn : \_\_\_\_\_

- A. sheep
- B. knit
- C. colour
- D. ball
- E. needle

16. conductor : orchestra :: principal : \_\_\_\_\_

- A. office
- B. teacher
- C. building
- D. rules
- E. school

17. telescope : distant :: magnifying glass : \_\_\_\_\_

- A. tiny
- B. lens
- C. glass
- D. detective
- E. round

18. hibernation : bear :: migration : \_\_\_\_\_

- A. journey
- B. south
- C. goose
- D. winter
- E. distance

19. pedal : bicycle :: oar : \_\_\_\_\_

- A. water
- B. wood
- C. splash
- D. boat
- E. lake

20. prologue : beginning :: epilogue : \_\_\_\_\_

- A. book
- B. end
- C. chapter
- D. author
- E. story

21. constellation : stars :: archipelago : \_\_\_\_\_

- A. water
- B. map
- C. ocean
- D. geography
- E. islands

22. evaporation : gas :: freezing : \_\_\_\_\_

- A. water
- B. winter
- C. solid
- D. ice
- E. cold

23. compass : direction :: ruler : \_\_\_\_\_

- A. length
- B. straight
- C. centimetre
- D. wood
- E. tool

24. pupil : eye :: valve : \_\_\_\_\_

- A. pipe
- B. water
- C. pressure
- D. heart
- E. open

## Section 2: Sentence Completion (Questions 25–44)

Directions: In each question below, choose the word that best completes the sentence.

25. The loud thunder during the storm \_\_\_\_ the sleeping baby, causing her to wake up and cry immediately.

- A. comforted
- B. startled
- C. pleased
- D. ignored
- E. amused

26. The ancient ruins were remarkably well \_\_\_\_, with many of the original stone walls still standing after two thousand years.

- A. hidden
- B. painted

- C. damaged
- D. forgotten
- E. preserved

27. The athlete trained \_\_\_ for months, waking up at five o'clock every morning to practise before school started.

- A. lazily
- B. briefly
- C. rarely
- D. diligently
- E. carelessly

28. The drought had lasted so long that the once-green fields had turned brown and \_\_\_ under the relentless summer sun.

- A. barren
- B. flooded
- C. lush
- D. frozen
- E. blooming

29. The clever detective noticed a tiny \_\_\_ in the suspect's story that eventually led to solving the entire case.

- A. agreement
- B. strength
- C. inconsistency
- D. compliment
- E. similarity

30. Unlike the noisy city streets, the countryside was remarkably \_\_\_ with only birdsong breaking the stillness.

- A. crowded
- B. peaceful
- C. dangerous
- D. confusing
- E. exciting

31. The science experiment required \_\_\_ measurements, because even a small error could ruin the entire result.

- A. rough
- B. random
- C. careless
- D. quick
- E. precise

32. The thick blanket of clouds \_\_\_ the sun completely, turning the bright afternoon into what felt like early evening.

- A. brightened
- B. revealed
- C. warmed
- D. obscured
- E. reflected

33. The school raised enough money to \_\_\_ new computers for every classroom through its fundraising bake sale and concert.

- A. acquire
- B. destroy
- C. hide
- D. lose
- E. return

34. The coral reef was teeming with \_\_\_\_, as hundreds of different species of fish darted among the colourful formations.

- A. silence
- B. darkness
- C. life
- D. sand
- E. ice

35. The inventor's first attempt at building the machine was a \_\_\_\_, but she learned from her mistakes and succeeded on the third try.

- A. triumph
- B. failure
- C. celebration
- D. masterpiece
- E. surprise

36. The earthquake caused extensive \_\_\_\_ to buildings throughout the city, and many structures had to be completely rebuilt.

- A. beauty
- B. silence
- C. growth
- D. peace
- E. damage

37. The teacher's clear explanation helped the confused students finally \_\_\_\_ the difficult mathematical concept they had been struggling with.

- A. grasp
- B. forget
- C. avoid

- D. ignore
- E. reject

38. The northern lights painted the night sky with brilliant colours, creating a \_\_\_ display that left every observer speechless.

- A. boring
- B. ordinary
- C. faint
- D. spectacular
- E. quiet

39. The roots of the ancient tree stretched deep underground, \_\_\_ the soil firmly and preventing the hillside from eroding.

- A. loosening
- B. flooding
- C. anchoring
- D. freezing
- E. cracking

40. The new student gradually became more \_\_\_ with each passing week, volunteering to answer questions and joining after-school clubs.

- A. shy
- B. confident
- C. nervous
- D. tired
- E. confused

41. Many plants \_\_\_ their leaves in autumn as a strategy to conserve water and energy during the harsh winter months ahead.

- A. grow

- B. paint
- C. water
- D. count
- E. shed

42. The town council voted to \_\_\_ the old playground equipment and replace it with safer, more modern structures for children.

- A. remove
- B. celebrate
- C. paint
- D. photograph
- E. worship

43. The surgeon's hands remained perfectly \_\_\_ throughout the delicate operation, despite the procedure lasting over six hours.

- A. tired
- B. cold
- C. wet
- D. steady
- E. heavy

44. The heavy rainfall \_\_\_ the river's water level significantly, causing officials to issue a flood warning for nearby communities.

- A. lowered
- B. froze
- C. raised
- D. dried
- E. cleared

**Section 3: Verbal Classification (Questions 45–60)**

Directions: The three words in each question below go together in some way. Choose the answer that belongs with them.

45. salmon, trout, bass

- A. tuna
- B. fishing
- C. river
- D. scale
- E. water

46. Jupiter, Saturn, Neptune

- A. star
- B. moon
- C. telescope
- D. Uranus
- E. orbit

47. broccoli, spinach, celery

- A. fruit
- B. salad
- C. farm
- D. cook
- E. kale

48. ruler, protractor, compass

- A. school
- B. measuring tool

C. pencil

D. math

E. paper

49. erosion, weathering, deposition

A. rock

B. science

C. geological process

D. mountain

E. rain

50. waltz, tango, ballet

A. dance

B. shoe

C. stage

D. partner

E. music

51. novel, short story, novella

A. author

B. library

C. reading

D. page

E. fiction form

52. liver, kidney, lung

A. blood

B. doctor

C. anatomy

D. organ

E. body

53. limestone, sandstone, shale

A. mineral

B. sedimentary rock

C. cave

D. fossil

E. geology

54. peninsula, island, continent

A. water

B. map

C. landform

D. travel

E. geography

55. thermometer, barometer, anemometer

A. weather instrument

B. science

C. glass

D. mercury

E. number

56. Nile, Amazon, Danube

A. water

B. bridge

C. country

D. fish

E. river

57. herbivore, carnivore, omnivore

A. animal

B. science

C. food

D. dietary classification

E. jungle

58. photosynthesis, respiration, digestion

A. plant

B. biological process

C. oxygen

D. energy

E. cell

59. simile, personification, hyperbole

A. literary device

B. poem

C. english

D. sentence

E. book

60. revolution, rotation, orbit

A. space

B. earth

- C. astronomical motion
- D. gravity
- E. sun

## QUANTITATIVE BATTERY

**Recommended Time: 30 Minutes — 54 Questions**

**Do not turn back to the Verbal Battery or go ahead to the Nonverbal Battery.**

### Section 4: Number Analogies (Questions 61–78)

Directions: In each question below, the numbers in the first two pairs follow the same rule. Find the number that completes the third pair using the same rule.

61.  $[5 \rightarrow 20] [8 \rightarrow 32] [3 \rightarrow ?]$

- A. 6
- B. 9
- C. 15
- D. 18
- E. 12

62.  $[18 \rightarrow 9] [14 \rightarrow 7] [22 \rightarrow ?]$

- A. 12
- B. 11
- C. 44
- D. 7
- E. 10

63.  $[3 \rightarrow 10] [5 \rightarrow 16] [7 \rightarrow ?]$

- A. 14
- B. 20
- C. 21
- D. 22
- E. 28

64.  $[2 \rightarrow 8] [4 \rightarrow 64] [3 \rightarrow ?]$

- A. 27
- B. 12
- C. 9
- D. 18
- E. 81

65.  $[9 \rightarrow 4] [13 \rightarrow 8] [21 \rightarrow ?]$

- A. 11
- B. 26
- C. 16
- D. 10
- E. 15

66.  $[5 \rightarrow 25] [9 \rightarrow 81] [7 \rightarrow ?]$

- A. 14
- B. 35
- C. 21
- D. 42
- E. 49

67.  $[1 \rightarrow 5] [3 \rightarrow 11] [5 \rightarrow ?]$

- A. 10
- B. 17
- C. 15
- D. 25
- E. 20

68.  $[42 \rightarrow 7] [30 \rightarrow 5] [48 \rightarrow ?]$

- A. 6
- B. 12
- C. 24
- D. 8
- E. 9

69.  $[7 \rightarrow 13] [11 \rightarrow 21] [4 \rightarrow ?]$

- A. 7
- B. 8
- C. 10
- D. 12
- E. 14

70.  $[8 \rightarrow 9] [15 \rightarrow 16] [32 \rightarrow ?]$

- A. 31
- B. 34
- C. 33
- D. 64
- E. 36

71.  $[3 \rightarrow 18] [5 \rightarrow 30] [8 \rightarrow ?]$

- A. 24
- B. 16
- C. 32
- D. 40
- E. 48

72.  $[4 \rightarrow 11] [6 \rightarrow 17] [9 \rightarrow ?]$

- A. 18
- B. 26
- C. 21
- D. 27
- E. 19

73.  $[100 \rightarrow 25] [60 \rightarrow 15] [80 \rightarrow ?]$

- A. 16
- B. 40
- C. 8
- D. 20
- E. 10

74.  $[6 \rightarrow 36] [4 \rightarrow 16] [9 \rightarrow ?]$

- A. 81
- B. 27
- C. 45
- D. 18
- E. 72

75.  $[12 \rightarrow 7] [20 \rightarrow 15] [18 \rightarrow ?]$

- A. 8
- B. 9
- C. 13
- D. 12
- E. 11

76.  $[2 \rightarrow 9] [3 \rightarrow 14] [4 \rightarrow ?]$

- A. 16
- B. 20
- C. 15
- D. 18
- E. 19

77.  $[50 \rightarrow 10] [35 \rightarrow 7] [20 \rightarrow ?]$

- A. 5
- B. 4
- C. 10
- D. 2
- E. 15

78.  $[7 \rightarrow 15] [12 \rightarrow 25] [5 \rightarrow ?]$

- A. 11
- B. 10
- C. 15
- D. 12
- E. 9

**Section 5: Number Series (Questions 79–96)**

Directions: In each question below, a sequence of numbers follows a pattern. Find the number that comes next or fills the missing position.

79. 5, 10, 15, 20, ?

- A. 22
- B. 24
- C. 25
- D. 30
- E. 35

80. 3, 9, 27, 81, ?

- A. 162
- B. 90
- C. 108
- D. 243
- E. 324

81. 70, 60, 50, 40, ?

- A. 30
- B. 20
- C. 25
- D. 35
- E. 10

82. 1, 2, 4, 7, 11, ?

- A. 13
- B. 14

C. 15

D. 17

E. 16

83. 3, 6, 12, 24, ?

A. 30

B. 48

C. 36

D. 42

E. 32

84. 7, 14, 21, 28, ?

A. 30

B. 32

C. 35

D. 42

E. 36

85. 1, 4, 9, 16, 25, ?

A. 30

B. 32

C. 34

D. 36

E. 42

86. 400, 200, 100, 50, ?

A. 25

B. 40

C. 30

D. 10

E. 20

87. 2, 3, 5, 8, 12, ?

A. 14

B. 16

C. 15

D. 18

E. 17

88. 1, 1, 2, 3, 5, 8, 13, ?

A. 15

B. 21

C. 18

D. 26

E. 20

89. 144, 72, 36, 18, ?

A. 6

B. 12

C. 8

D. 9

E. 3

90. 6, 12, 18, 24, ?

A. 30

B. 28

C. 32

D. 36

E. 26

91. 2, 6, 18, 54, ?

A. 72

B. 108

C. 162

D. 216

E. 60

92. 1, 3, 6, 10, 15, 21, ?

A. 24

B. 26

C. 25

D. 27

E. 28

93. 85, 80, 75, 70, ?

A. 60

B. 65

C. 55

D. 68

E. 62

94. 3, 5, 9, 15, 23, ?

A. 33

B. 29

- C. 35
- D. 31
- E. 37

95. 5, 15, 45, 135, ?

- A. 270
- B. 180
- C. 150
- D. 405
- E. 540

96. 1, 2, 6, 24, ?

- A. 48
- B. 30
- C. 120
- D. 72
- E. 96

**Section 6: Number Puzzles (Questions 97–114)**

Directions: In each question below, find the number that makes the equation true.

97.  $11 + ? = 26$

- A. 15
- B. 37
- C. 16
- D. 14
- E. 25

98.  $? \times 7 = 63$

A. 7

B. 8

C. 56

D. 9

E. 6

99.  $41 - ? = 17$

A. 58

B. 23

C. 25

D. 34

E. 24

100.  $84 \div ? = 12$

A. 6

B. 7

C. 8

D. 72

E. 12

101.  $? + 27 = 44$

A. 71

B. 27

C. 17

D. 7

E. 21

102.  $8 \times ? = 72$

- A. 9
- B. 8
- C. 64
- D. 7
- E. 80

103.  $6 \times ? - 5 = 31$

- A. 4
- B. 5
- C. 7
- D. 6
- E. 36

104.  $? - 23 = 38$

- A. 15
- B. 51
- C. 62
- D. 55
- E. 61

105.  $7 \times 8 = ? + 16$

- A. 56
- B. 40
- C. 72
- D. 32
- E. 48

106.  $\blacktriangle + \blacktriangle + \blacktriangle = 33$ . What is  $\blacktriangle$ ?

- A. 3
- B. 9
- C. 11
- D. 33
- E. 6

107.  $108 \div ? = 12$

- A. 9
- B. 96
- C. 12
- D. 8
- E. 6

108.  $5 \times ? + 3 = 38$

- A. 6
- B. 8
- C. 35
- D. 41
- E. 7

109.  $? + ? + 9 = 31$ . What is  $?$

- A. 22
- B. 11
- C. 31
- D. 9
- E. 13

110.  $81 \div 9 = ? - 4$

A. 5

B. 9

C. 14

D. 13

E. 7

111.  $\star + \star = 24$ .  $\star - 5 = ?$

A. 7

B. 19

C. 12

D. 24

E. 17

112.  $28 + ? = 7 \times 6$

A. 42

B. 7

C. 14

D. 6

E. 21

113.  $(? + 6) \times 4 = 36$

A. 30

B. 9

C. 4

D. 6

E. 3

114.  $100 \div 10 = ? + 5$

- A. 10
- B. 5
- C. 15
- D. 2
- E. 50

**NONVERBAL BATTERY**





**Recommended Time: 30 Minutes — 62 Questions**


**Do not turn back to the Quantitative Battery.**






**Section 7: Figure Matrices (Questions 115–136)**

Directions: In each question below, the shapes in the boxes follow a rule. Find the shape that completes the pattern in the empty box.

115. Look at the shapes in the grid below. Which answer choice completes the grid?

Figure PQ-1	
	
	




Which shape completes the pattern? 

- (A)  **A large pentagon**  
A large pentagon with a clean white outline.
- (B)  **A large, solid**  
A large, solid black-filled circle.
- (C)  **A large circle**  
A large circle with a clean white outline.
- ✓ (D)  **A pentagon**  
A large, solid black-filled pentagon.
- (E)  **A large pentagon**  
A large pentagon with diagonal black and white stripes.



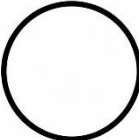


- A. a white pentagon
- B. a black circle
- C. a white circle
- D. a black-filled pentagon
- E. a striped pentagon

116. Look at the shapes in the grid below. Which answer choice completes the grid?

**[Figure PQ-2]**

	
	?

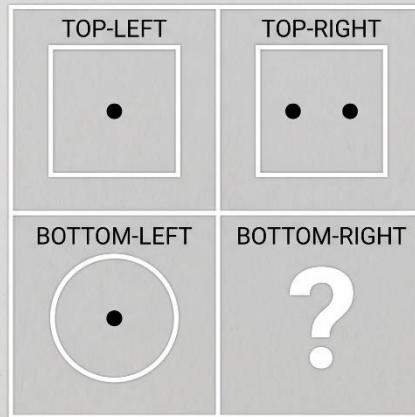
Given these figures, choose the figure that logically completes the pattern:

(A)	(B)	(C)	(D)	(E)
				

- A. a large white hexagon
- B. a small white-outlined hexagon
- C. a small black hexagon
- D. a large black hexagon
- E. a small white triangle

117. Look at the shapes in the grid below. Which answer choice completes the grid?

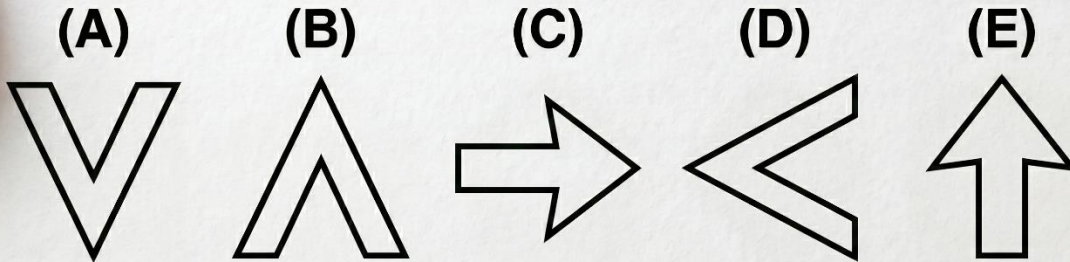
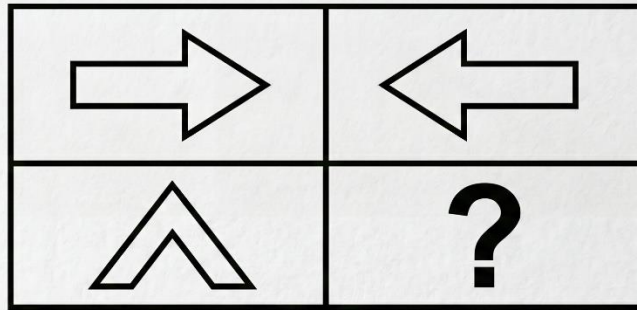
Figure PQ-3



- A. a circle with one dot
- B. a square with two dots
- C. a circle with three dots
- D. a circle with no dots
- E. a circle with two small dots inside

118. Look at the shapes in the grid below. Which answer choice completes the grid?

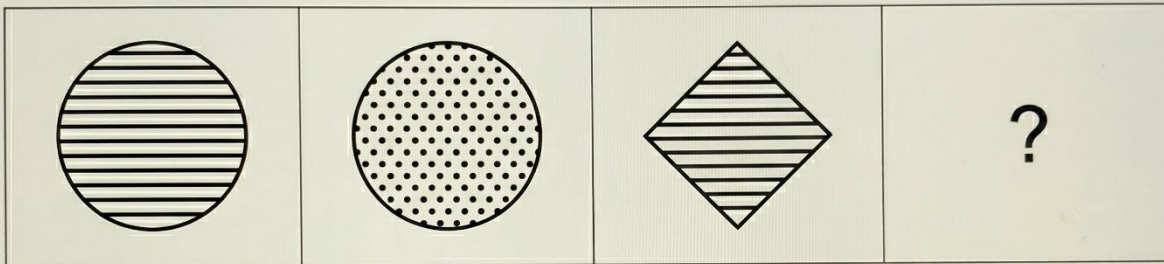
Figure PQ-4:



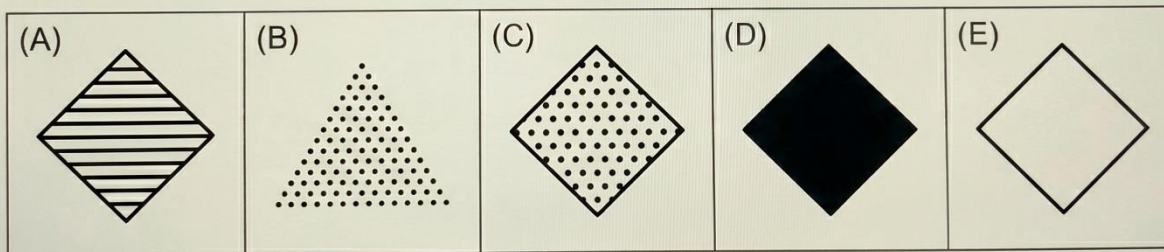
- A. a downward-pointing chevron
- B. an upward chevron
- C. a right-pointing arrow
- D. a left-pointing chevron
- E. an upward-pointing arrow

119. Look at the shapes in the grid below. Which answer choice completes the grid?

Figure PQ-5:



Select the shape that follows the pattern:








- A. a striped diamond
- B. a dotted triangle
- C. a dotted diamond
- D. a black-filled diamond
- E. a white diamond






120. Look at the shapes in the grid below. Which answer choice completes the grid?

[Figure PQ-6: A 2×2 grid. TOP-LEFT: a white-outlined triangle with a small circle inside. TOP-RIGHT: a white-outlined triangle with no shape inside (circle removed). BOTTOM-LEFT: a white-outlined square with a small circle inside. BOTTOM-RIGHT: question mark. Five answers: (A) a square with a circle inside, (B) a square with a triangle inside, (C) a circle with no shape, (D) a square with no shape inside (empty), (E) a triangle with no shape.]

**Figure PQ-6**

Which shape completes the pattern? 

- (A)  **A square with a circle**  
A white-outlined square with a central solid black circle.
- (B)  **A square with a triangle**  
A white-outlined square containing a smaller, empty white-outlined triangle.
- (C)  **A circle**  
A large, empty white-outlined circle.
- ✓ (D)  **An empty square**  
A large, empty white-outlined square.
- (E)  **An empty triangle**  
A large, empty white-outlined triangle.

- A. a square with a circle inside
- B. a square with a triangle inside
- C. a circle with no shape
- D. a square with no shape inside
- E. a triangle with no shape

121. Look at the shapes in the grid below. Which answer choice completes the grid?

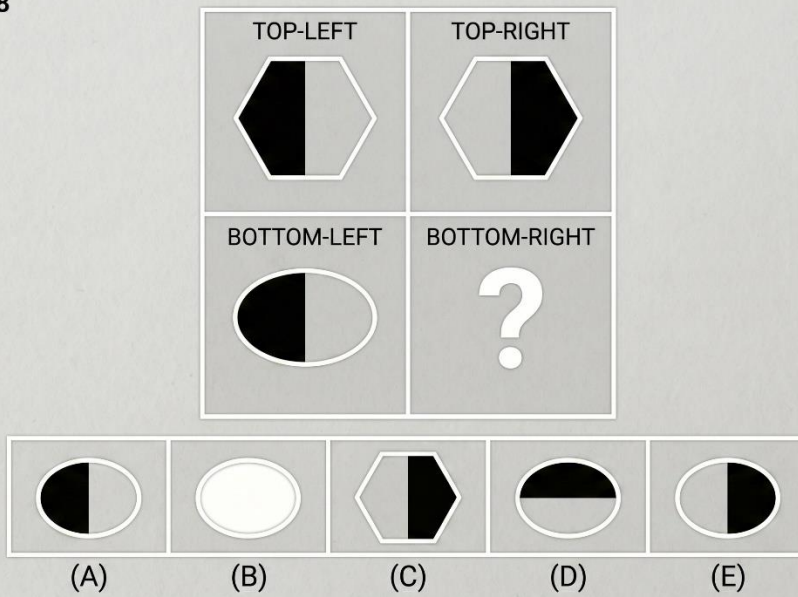
PATTERN COMPLETION PUZZLE  
FIGURE PQ-7



- A. two concentric triangles
- B. three concentric triangles
- C. three concentric circles
- D. one triangle
- E. two concentric squares

122. Look at the shapes in the grid below. Which answer choice completes the grid?

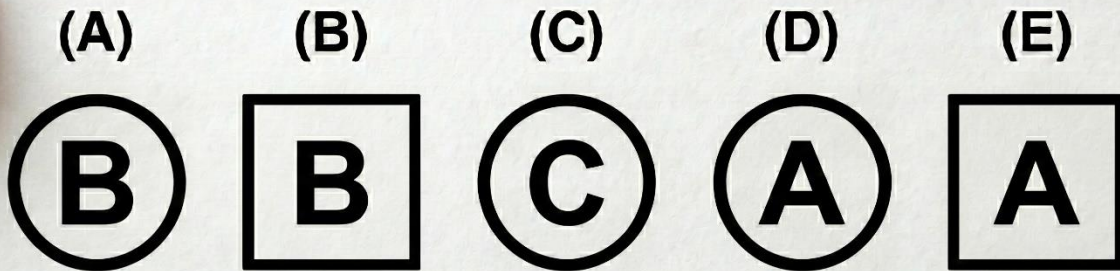
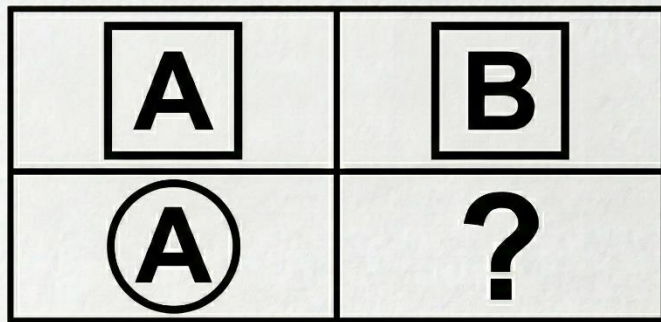
Figure PQ-8



- A. an oval with left half black
- B. an oval with no shading
- C. a hexagon with right half black
- D. an oval with top half black
- E. an oval with its right half shaded black

123. Look at the shapes in the grid below. Which answer choice completes the grid?

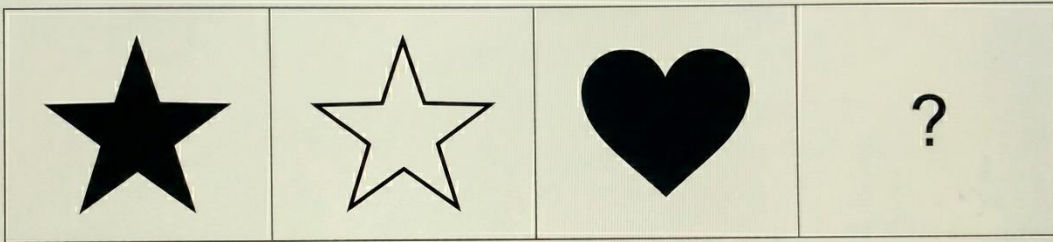
Figure PQ-9:



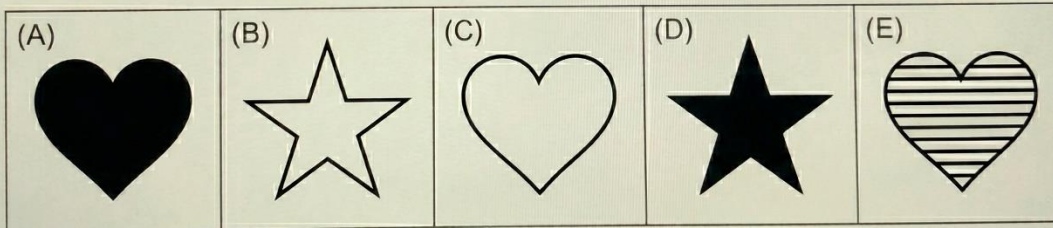
- A. a circle containing "B"
- B. a square containing "B"
- C. a circle containing "C"
- D. a circle containing "A"
- E. a square containing "A"

124. Look at the shapes in the grid below. Which answer choice completes the grid?

Figure PQ-10:



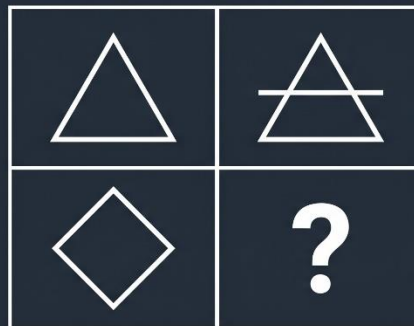
Select the shape that follows the pattern:



- A. a black heart
- B. a white star
- C. a white-outlined heart
- D. a black star
- E. a striped heart

125. Look at the shapes in the grid below. Which answer choice completes the grid?

[Figure PQ-11]

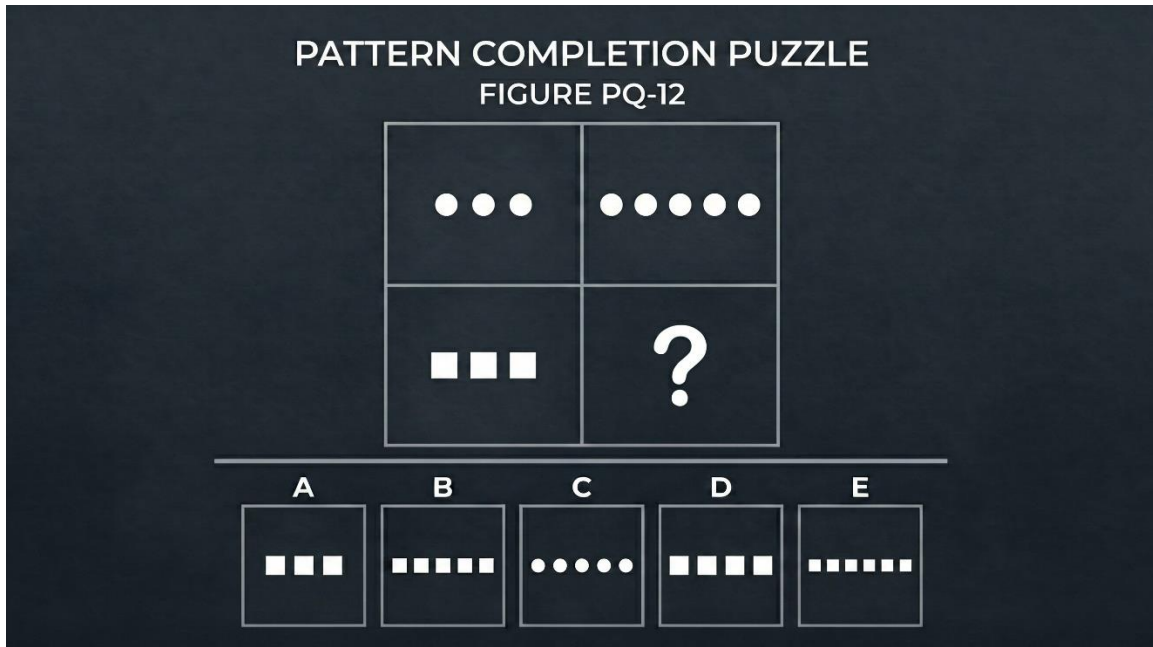


Select the figure that correctly completes the grid from the five options below:



- A. a diamond with no line
- B. a diamond with a vertical line
- C. a triangle with a horizontal line
- D. a diamond with a horizontal line through its centre
- E. a diamond with a diagonal line

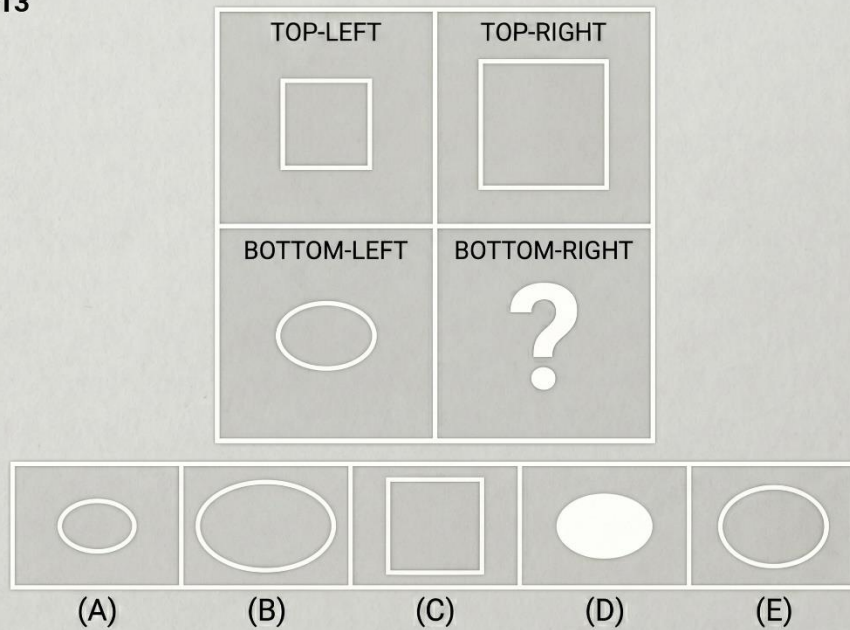
126. Look at the shapes in the grid below. Which answer choice completes the grid?



- A. three black squares
- B. five small black squares in a horizontal row
- C. five black dots
- D. four black squares
- E. seven black squares

127. Look at the shapes in the grid below. Which answer choice completes the grid?




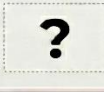
Figure PQ-13









- A. a small oval
- B. a large oval
- C. a medium square
- D. a small white oval
- E. a medium white-outlined oval

128. Look at the shapes in the grid below. Which answer choice completes the grid?

**Figure PQ-14**


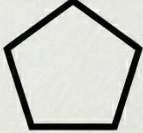


Which shape completes the pattern? 



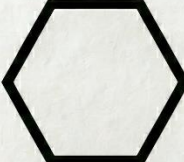
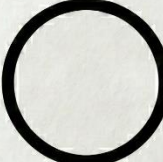
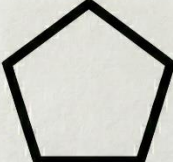
- ✓ (A)  **A hexagon with no shape on top**  
A plain white-outlined hexagon.
- (B)  **A hexagon with a triangle**  
A white-outlined hexagon with a smaller triangle on top.
- (C)  **A circle with no shape on top**  
A plain white-outlined circle.
- (D)  **A hexagon with a circle**  
A white-outlined hexagon with a smaller circle on top.
- (E)  **A hexagon with a square on top**  
A white-outlined hexagon with a smaller square on top.

- A. a hexagon with no shape on top
- B. a hexagon with a triangle on top
- C. a circle with no shape on top
- D. a hexagon with a circle on top
- E. a hexagon with a square on top

129. Look at the shapes in the grid below. Which answer choice completes the grid?

**Figure PQ-15:**

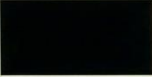
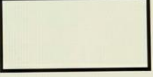

	
	

(A)  (B)  (C)  (D)  (E) 



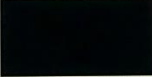
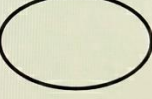

- A. a triangle
- B. a square
- C. a hexagon (6 sides)
- D. a circle
- E. a pentagon

130. Look at the shapes in the grid below. Which answer choice completes the grid?

**Figure PQ-16:**

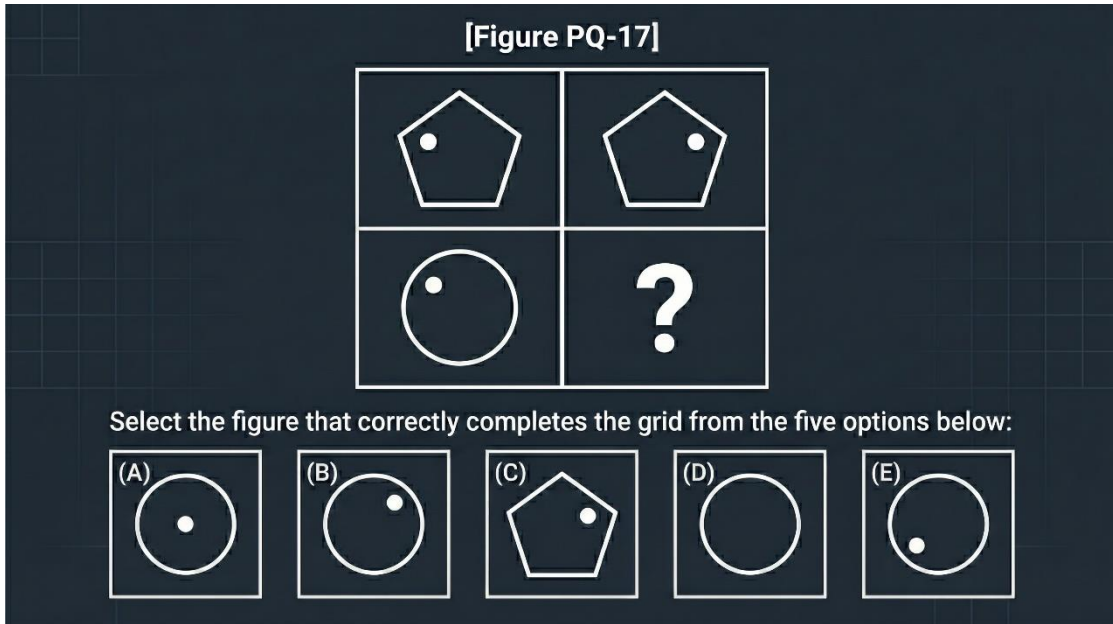
	
	?

Select the shape that follows the pattern:

(A)	(B)	(C)	(D)	(E)
				

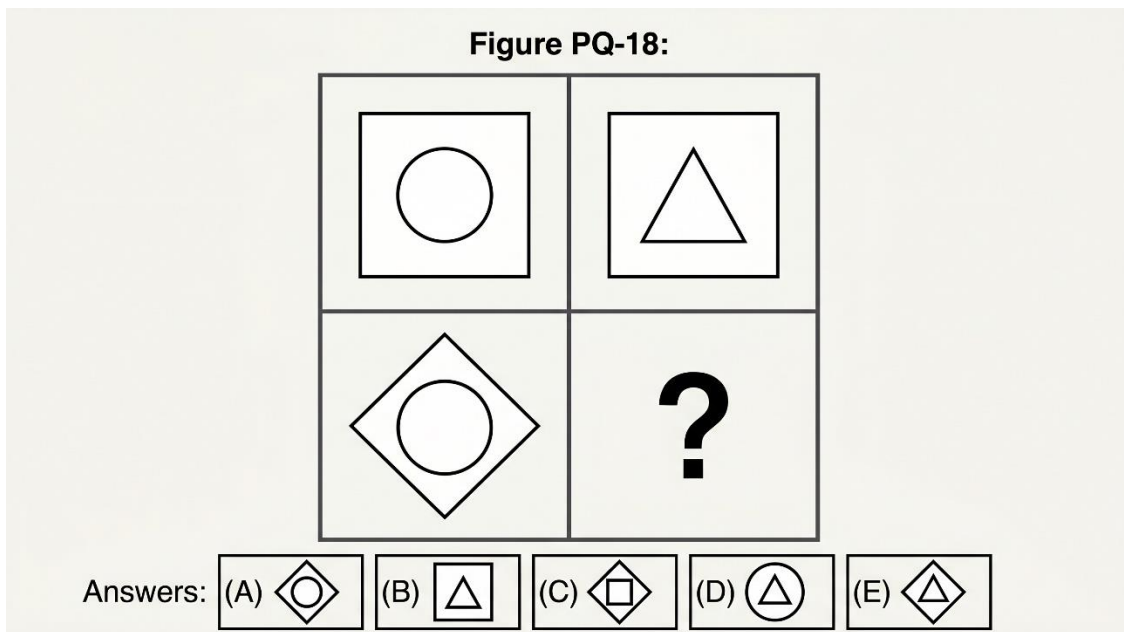
- A. a black oval
- B. a white rectangle
- C. a black rectangle
- D. a white-outlined oval
- E. a striped oval

131. Look at the shapes in the grid below. Which answer choice completes the grid?



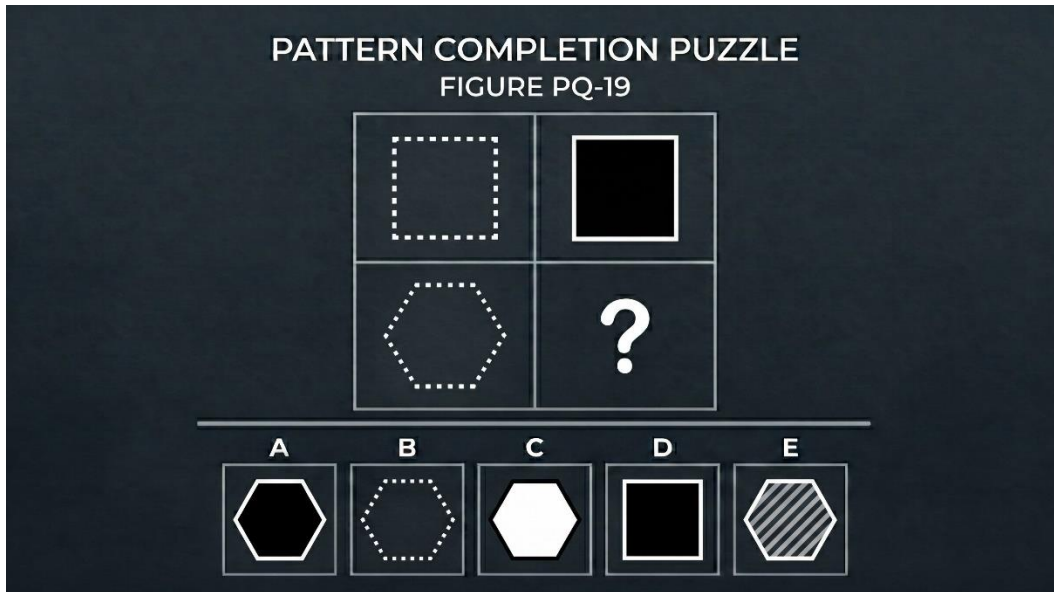
- A. a circle with dot in centre
- B. a circle with a dot in the upper-right area
- C. a pentagon with dot upper-right
- D. a circle with no dot
- E. a circle with dot in lower-left

132. Look at the shapes in the grid below. Which answer choice completes the grid?



- A. a diamond with a circle inside
- B. a square with a triangle
- C. a diamond with a square inside
- D. a circle with a triangle
- E. a diamond containing a triangle

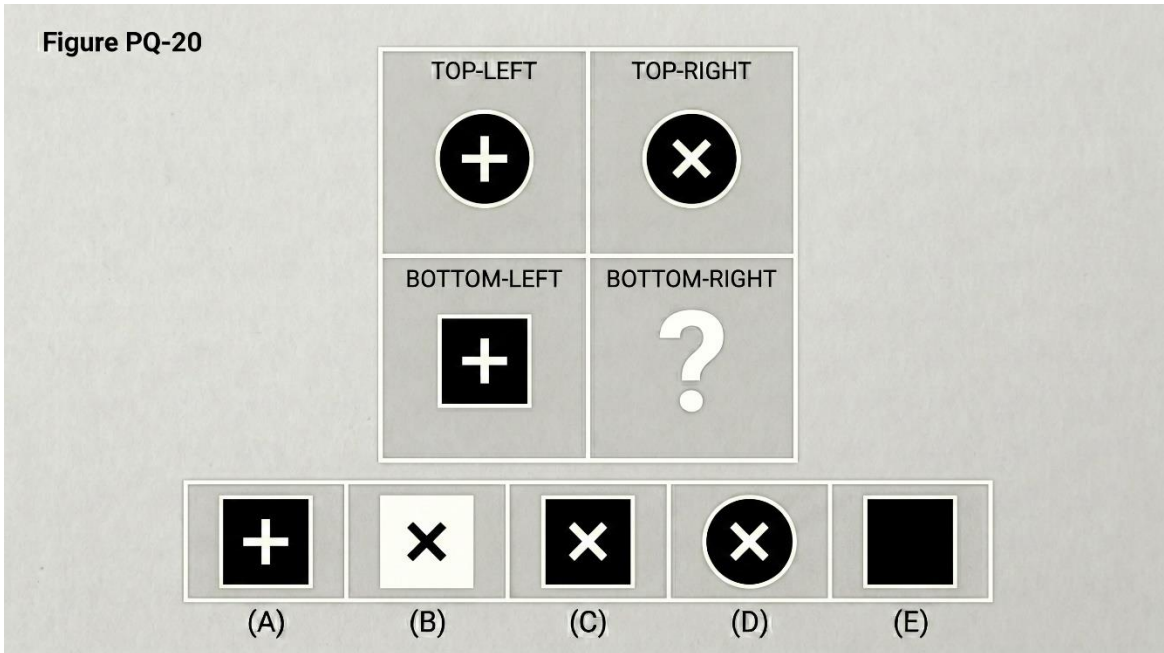
133. Look at the shapes in the grid below. Which answer choice completes the grid?



- A. a black-filled hexagon
- B. a dotted hexagon
- C. a white hexagon
- D. a black square
- E. a striped hexagon

134. Look at the shapes in the grid below. Which answer choice completes the grid?

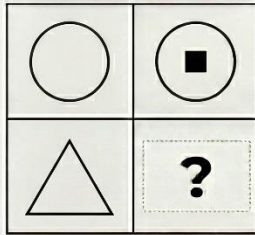
Figure PQ-20



- A. a black square with white "+"
- B. a white square with black "x"
- C. a black-filled square with a white "x" inside
- D. a black circle with white "x"
- E. a black square with no symbol






135. Look at the shapes in the grid below. Which answer choice completes the grid?

Figure PQ-21



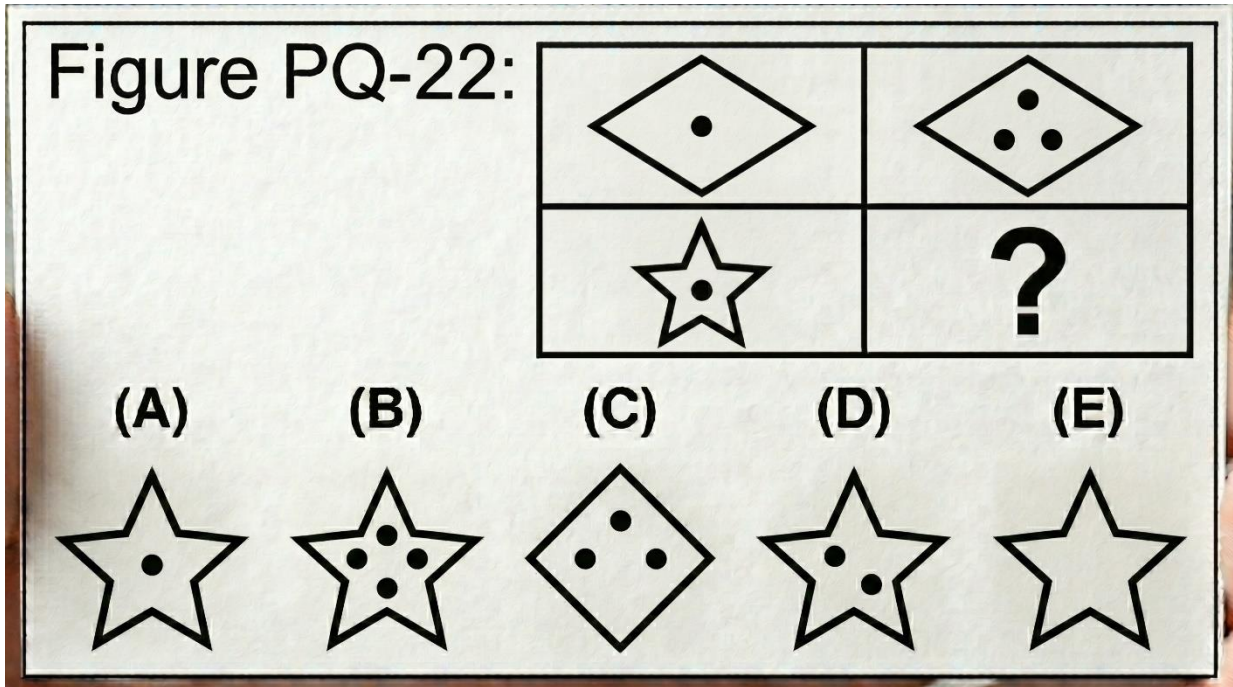
Which shape completes the pattern?



- (A)  **A triangle with a small black circle inside**  
A white-outlined triangle with a smaller black-filled circle.
- (B)  **A circle with a small black square inside**  
A white-outlined circle with a smaller black-filled square.
- (C)  **A triangle with no shape inside**  
A plain white-outlined triangle.
- ✓ (D)  **A large white-outlined triangle with a small black-filled square inside at center**  
A white-outlined triangle with a smaller black-filled square.
- (E)  **A triangle with a small white square inside**  
A white-outlined triangle with a smaller white-outlined square.

- A. a triangle with a small black circle
- B. a circle with a small black square
- C. a triangle with no shape
- D. a triangle with a small black-filled square inside
- E. a triangle with a small white square

136. Look at the shapes in the grid below. Which answer choice completes the grid?



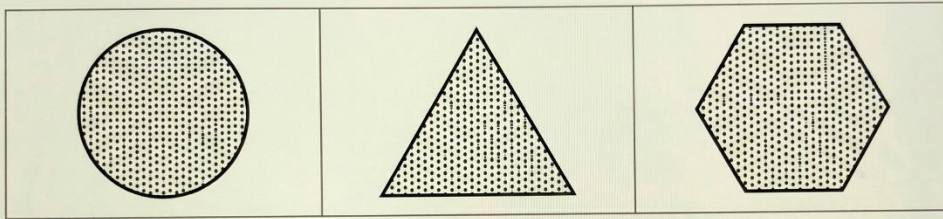
- A. a star with one dot
- B. a star with three dots inside
- C. a diamond with three dots
- D. a star with two dots
- E. a star with no dots

**Section 8: Figure Classification (Questions 137–158)**

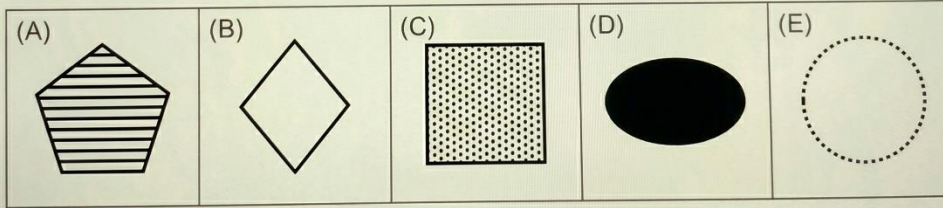
Directions: In each question below, the three shapes at the top go together in some way. Choose the answer choice that goes with them.

137. The three shapes are: a dotted circle, a dotted triangle, a dotted hexagon — all filled with a dot/stipple pattern.

Figure PQ-23:



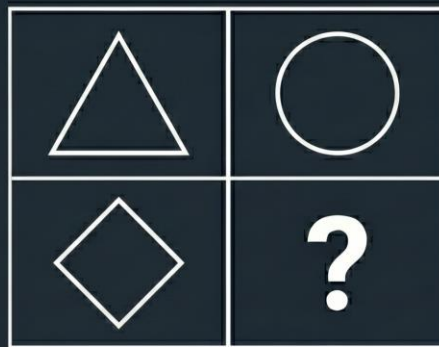
Select the shape that follows the pattern:



- A. a striped pentagon
- B. a white diamond
- C. a dotted square
- D. a black oval
- E. a dotted circle

138. The three shapes are: a large white-outlined triangle, a large white-outlined circle, a large white-outlined diamond — all large and white-outlined.

[Figure PQ-24]

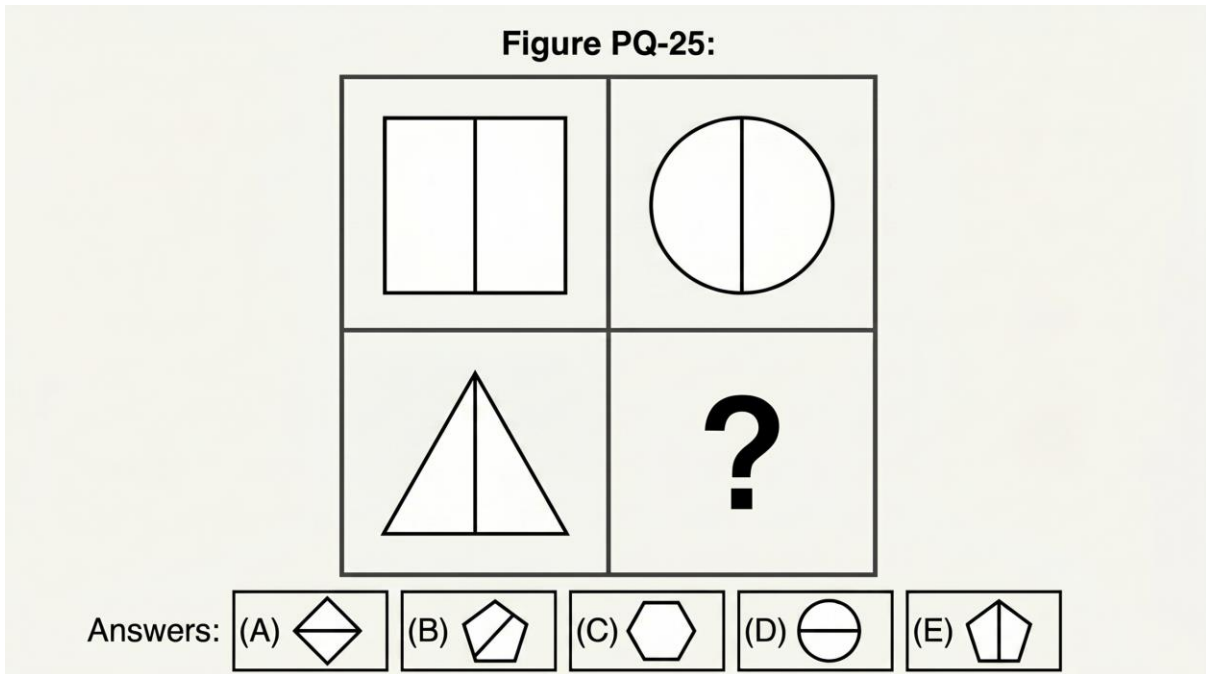


Select the figure that correctly completes the grid from the five options below:



- A. a large white-outlined hexagon
- B. a small white triangle
- C. a large black circle
- D. a large striped pentagon
- E. a small black square

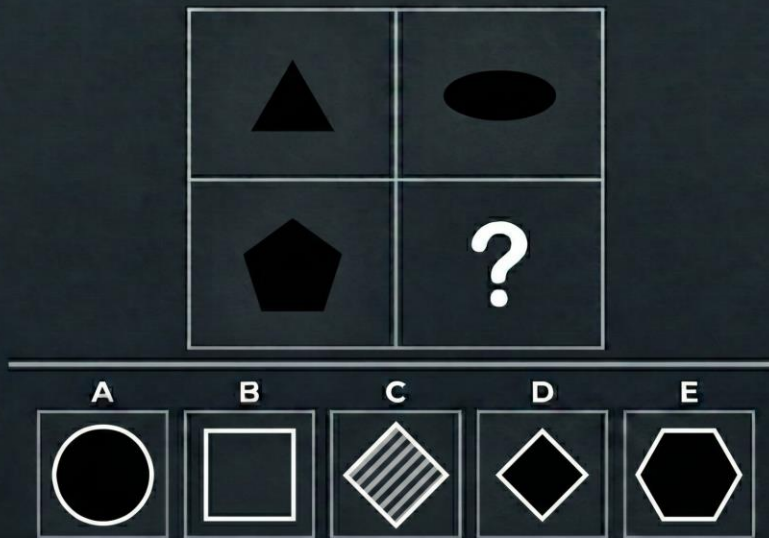
139. The three shapes are: a white-outlined square with a vertical line through its centre, a white-outlined circle with a vertical line through its centre, a white-outlined triangle with a vertical line through its centre.



- A. diamond with horizontal line
- B. pentagon with diagonal line
- C. hexagon with no line
- D. circle with horizontal line
- E. a pentagon with a vertical line through centre

140. The three shapes are: a small black-filled triangle, a small black-filled oval, a small black-filled pentagon.

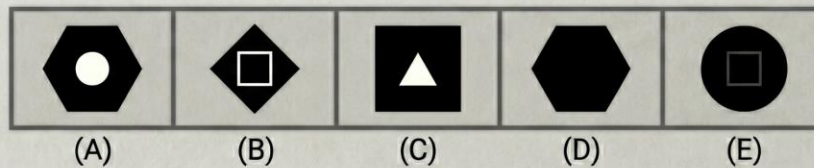
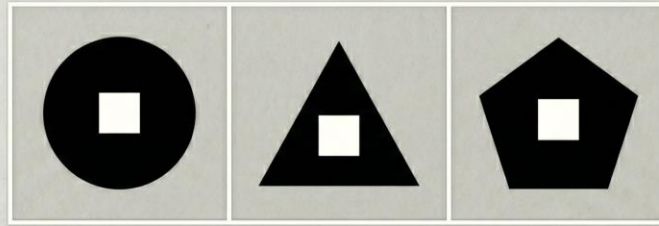
PATTERN COMPLETION PUZZLE  
FIGURE PQ-26



- A. a large black circle
- B. a small white square
- C. a small striped diamond
- D. a small black-filled diamond
- E. a medium black hexagon

141. The three shapes are: a white-outlined circle containing a small white-outlined square inside, a white-outlined triangle containing a small white-outlined square inside, a white-outlined pentagon containing a small white-outlined square inside.

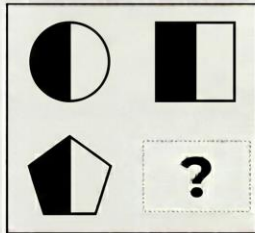
Figure PQ-27



- A. hexagon with white circle
- B. a diamond with a small white square inside
- C. square with white triangle
- D. hexagon with nothing inside
- E. circle with black square






142. The three shapes are: a circle divided vertically — left half black, right half white; a square divided vertically — left half black, right half white; a pentagon divided vertically — left half black, right half white.

Figure PQ-28



Which shape completes the pattern?

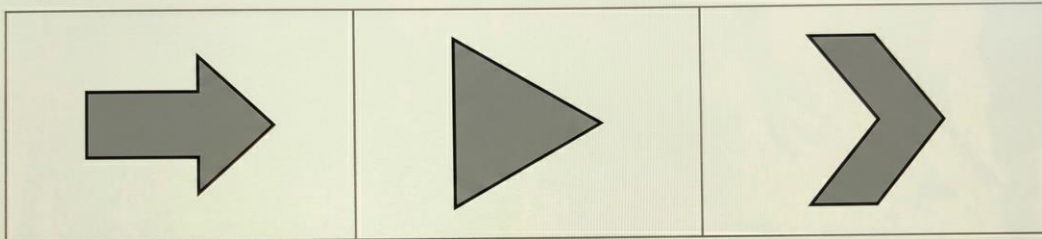
?

- (A)  **A fully black-filled hexagon.**  
A plain hexagon with no vertical division.
- ✓ (C)  **A triangle with a vertical division.**  
Left half is black, right half is white.
- (E)  **A fully white-filled hexagon.**  
A plain hexagon with no vertical division.
- (B)  **A diamond shape, divided horizontally.**  
Top half is black, bottom half is white.
- (D)  **An oval shape with a reversed division.**  
Left half is white, right half is black.

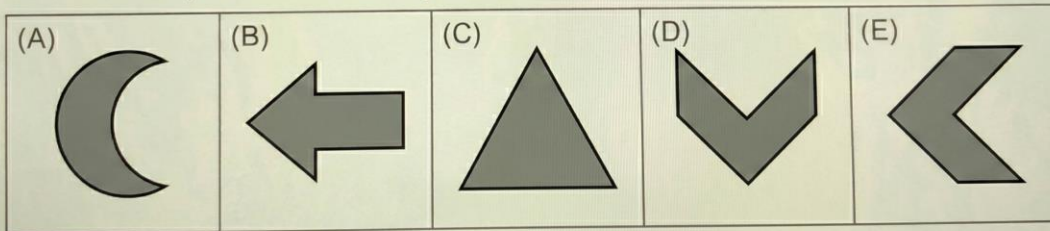
- A. a fully black hexagon
- B. diamond — top black, bottom white
- C. a triangle — left black, right white
- D. oval — reversed halves
- E. a fully white hexagon

143. The three shapes are: a white-outlined right-pointing arrow, a white-outlined right-pointing triangle, a white-outlined right-pointing chevron — all pointing right.

Figure PQ-29:

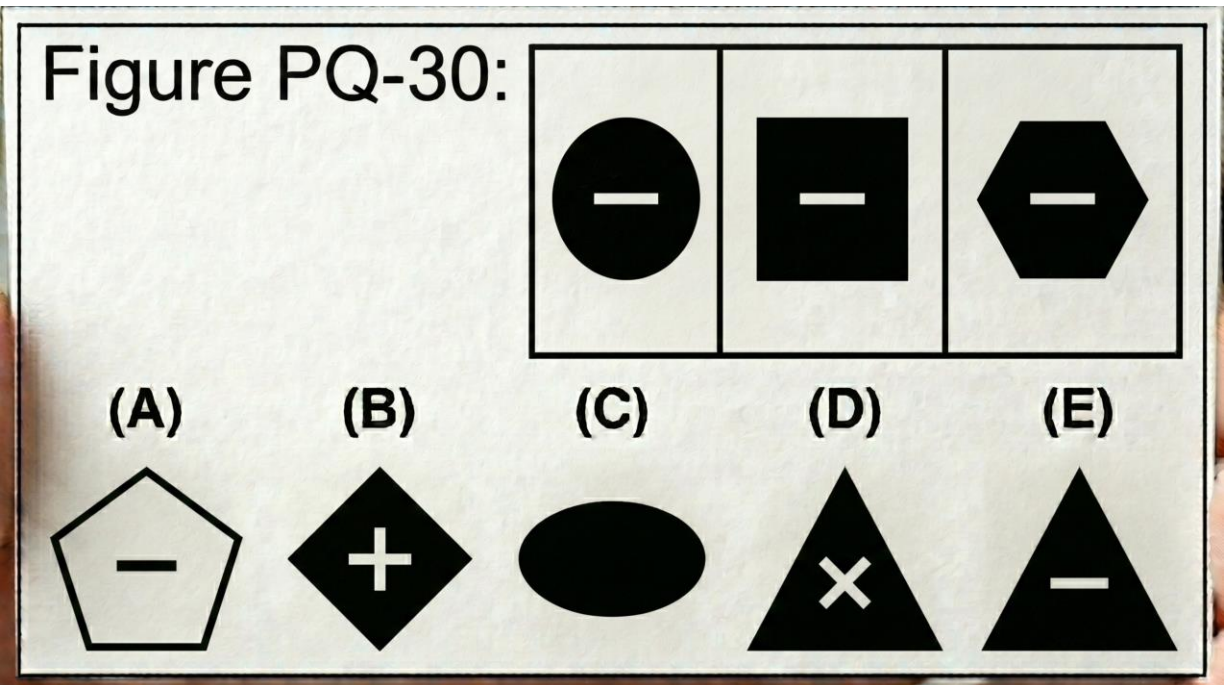


Select the shape that follows the pattern:



- A. a right-pointing crescent
- B. a left-pointing arrow
- C. an upward triangle
- D. a downward chevron
- E. a left chevron

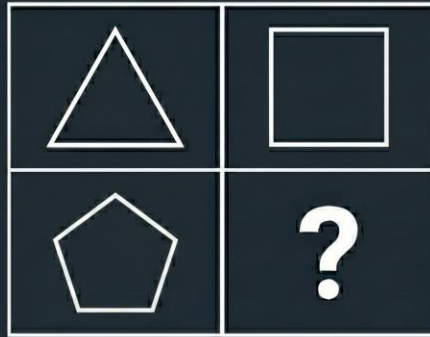
144. The three shapes are: a large black-filled circle with a white "-" inside, a large black-filled square with a white "-" inside, a large black-filled hexagon with a white "-" inside.



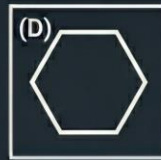
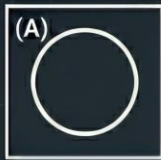
- A. white pentagon with black "-"
- B. black diamond with white "+"
- C. black oval with no symbol
- D. black triangle with white "×"
- E. a large black triangle with a white "-" inside

145. The three shapes are: a white-outlined equilateral triangle (3 sides), a white-outlined square (4 sides), a white-outlined pentagon (5 sides) — consecutive polygon progression.

[Figure PQ-31]



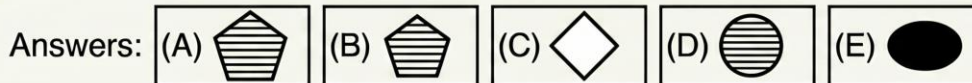
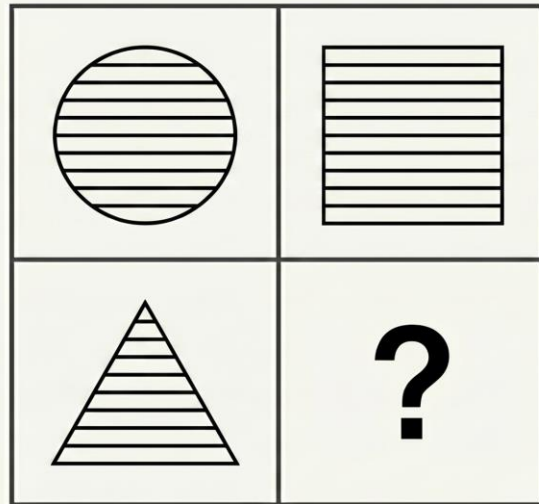
Select the figure that correctly completes the grid from the five options below:



- A. a circle
- B. a star
- C. an octagon
- D. a hexagon
- E. a diamond

146. The three shapes are: a medium striped circle, a medium striped square, a medium striped triangle — all medium and striped.

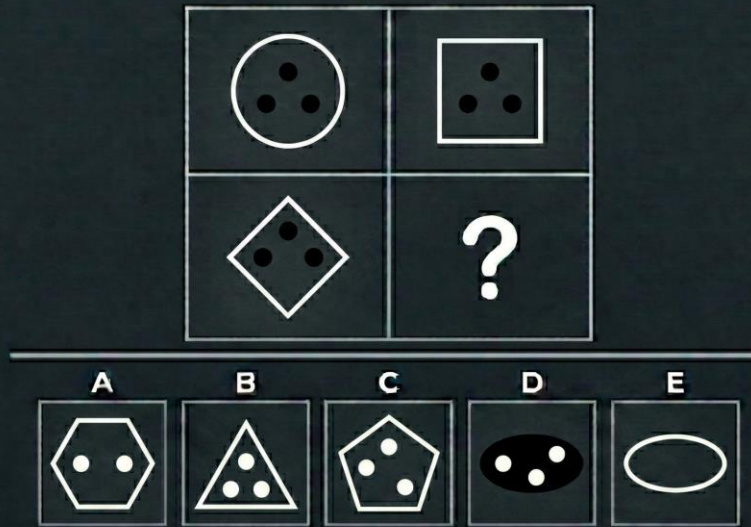
Figure PQ-32:



- A. large striped pentagon
- B. a medium striped pentagon
- C. medium white diamond
- D. small striped circle
- E. medium black oval

147. The three shapes are: a white-outlined circle with three dots inside, a white-outlined square with three dots inside, a white-outlined diamond with three dots inside.

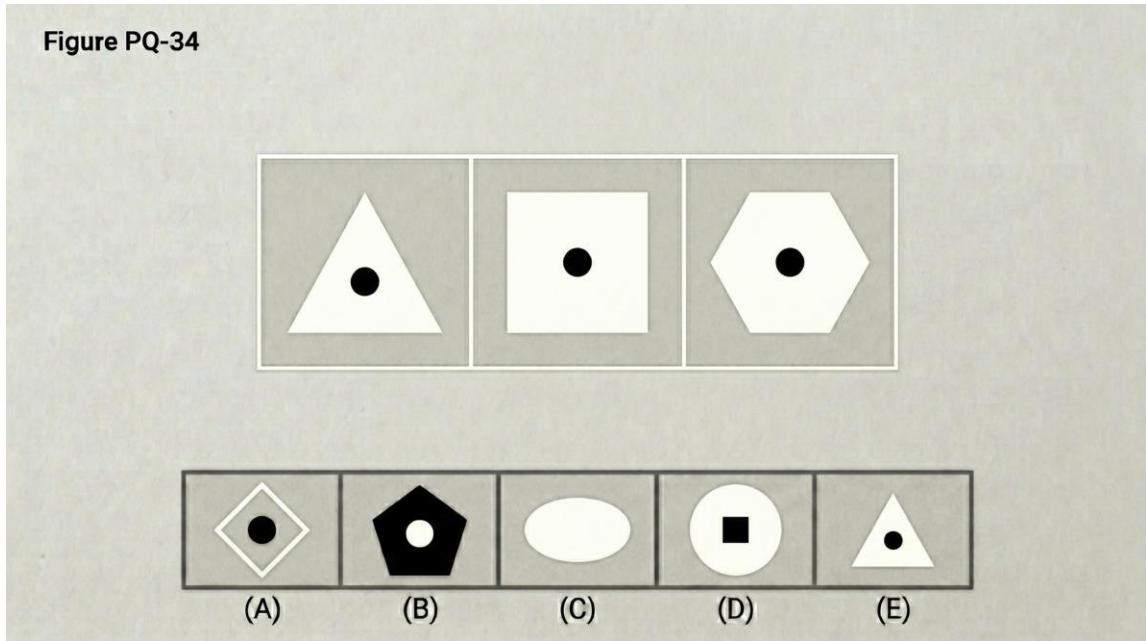
PATTERN COMPLETION PUZZLE  
FIGURE PQ-33



- A. hexagon with two dots
- B. triangle with four dots
- C. a pentagon with three dots inside
- D. a black oval with three dots
- E. oval with no dots

148. The three shapes are: a large white-outlined triangle with a small black-filled circle inside, a large white-outlined square with a small black-filled circle inside, a large white-outlined hexagon with a small black-filled circle inside.

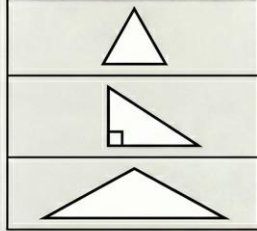
Figure PQ-34



- A. a large white diamond with a small black circle inside
- B. a large black pentagon with white circle
- C. a large white oval with nothing inside
- D. a white circle with a black square inside
- E. a small white triangle with a black circle






149. The three shapes are: a white-outlined right triangle, a white-outlined isosceles triangle, a white-outlined obtuse triangle — all types of triangles.

Figure PQ-35



Which shape completes the pattern?

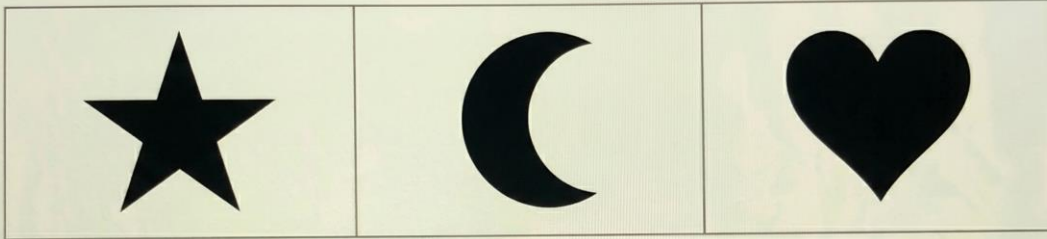


- (A)  **a white-outlined square**  
a white-outlined square
- ✓ (E)  **a white-outlined scalene triangle**  
(all sides different lengths)
- (D)  **a white-outlined diamond**  
a white-outlined diamond
- (B)  **a white-outlined pentagon**  
a white-outlined pentagon
- (C)  **a white-outlined circle**  
a white-outlined circle

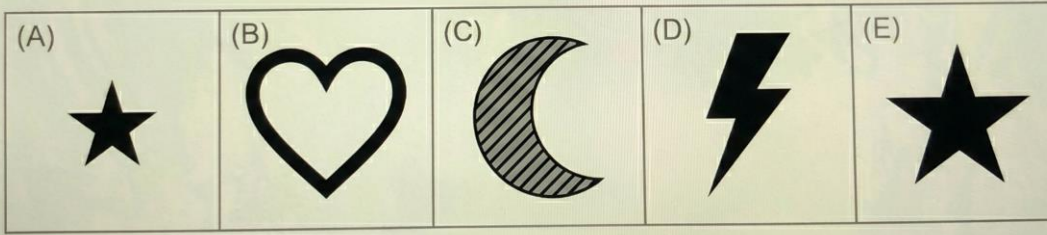
- A. square
- B. pentagon
- C. circle
- D. diamond
- E. a scalene triangle

150. The three shapes are: a large black-filled star, a large black-filled crescent, a large black-filled heart.

Figure PQ-36:

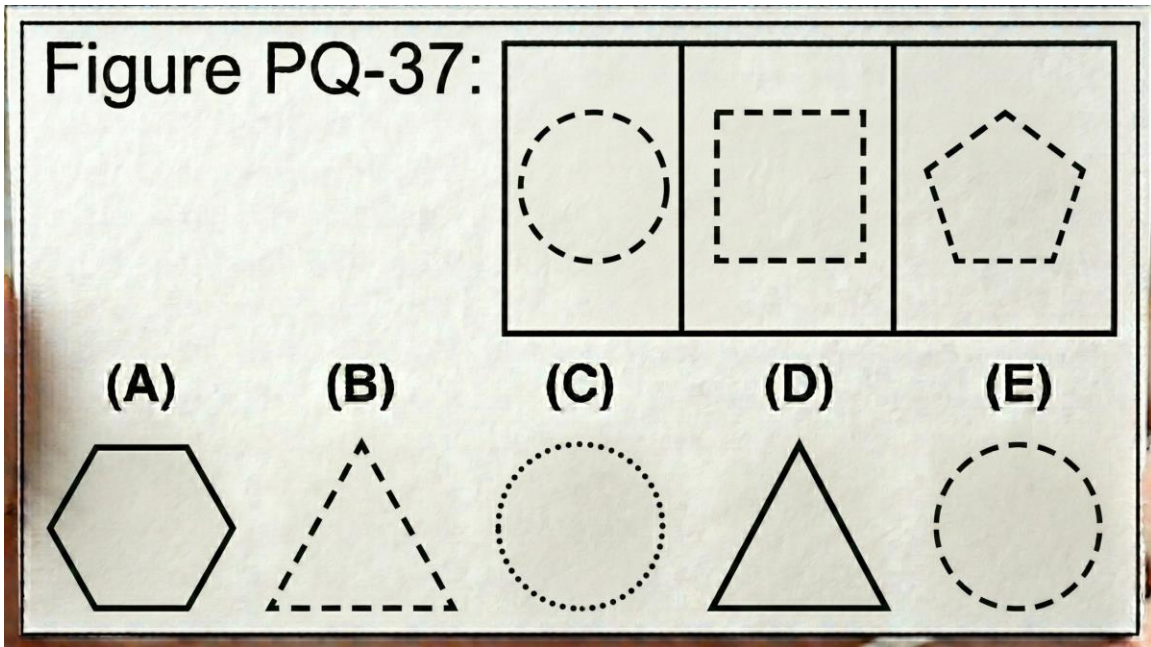


Select the shape that follows the pattern:



- A. small black star
- B. large white heart
- C. large striped crescent
- D. a large black-filled lightning bolt
- E. medium black star

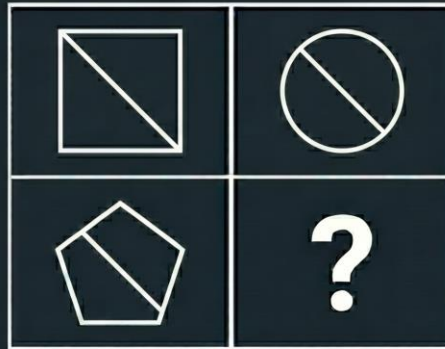
151. The three shapes are: a dashed-line circle, a dashed-line square, a dashed-line pentagon.



- A. solid hexagon
- B. a dashed-line triangle
- C. dotted circle
- D. solid triangle
- E. a dashed circle

152. The three shapes are: a white-outlined square with a diagonal line from upper-left to lower-right, a white-outlined circle with a diagonal line from upper-left to lower-right, a white-outlined pentagon with a diagonal line from upper-left to lower-right.

[Figure PQ-38]



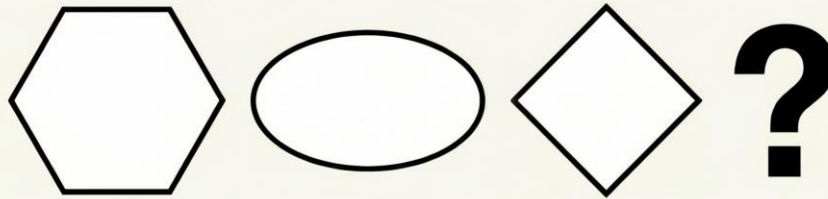
Select the figure that correctly completes the grid from the five options below:



- A. hexagon with horizontal line
- B. diamond with vertical line
- C. a triangle with diagonal from upper-left to lower-right
- D. oval with no line
- E. triangle with horizontal line

153. The three shapes are: a medium white-outlined hexagon, a medium white-outlined oval, a medium white-outlined diamond — all medium and white-outlined.

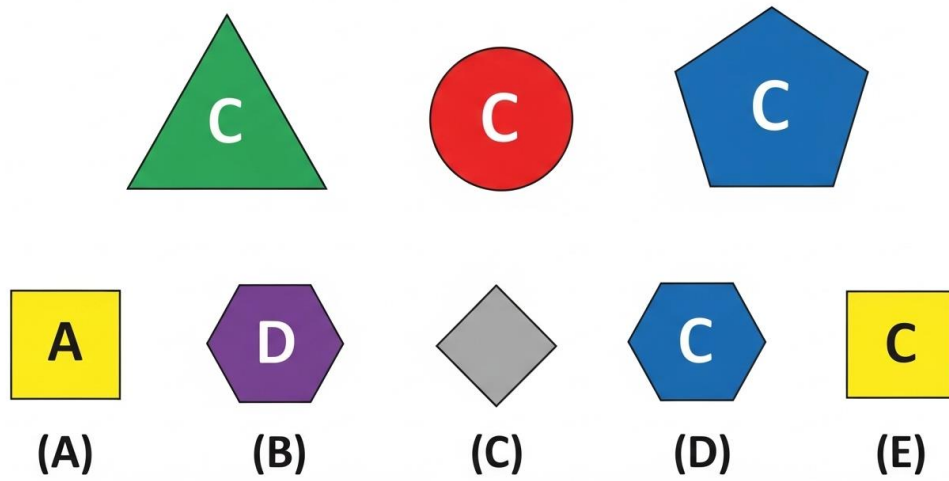
Figure PQ-39:



- A. a medium white-outlined star
- B. large white circle
- C. medium black pentagon
- D. small white triangle
- E. medium striped square

154. The three shapes are: a white-outlined triangle containing the letter "C", a white-outlined circle containing the letter "C", a white-outlined pentagon containing the letter "C."

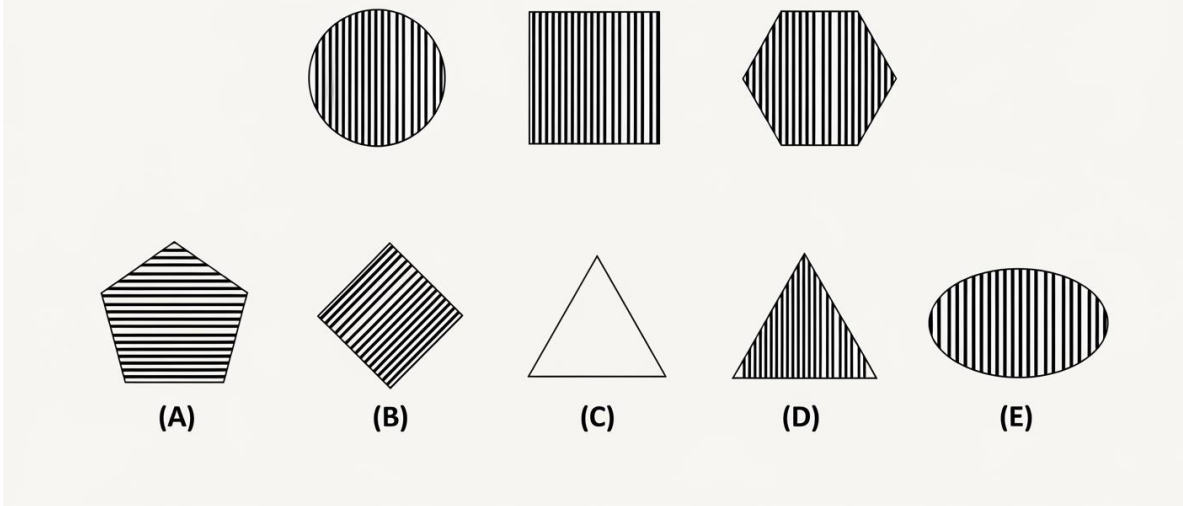
Figure PQ-40



- A. square with "A"
- B. hexagon with "D"
- C. diamond with no letter
- D. hexagon with "C"
- E. a square with "C" inside

155. The three shapes are: a white-outlined circle with vertical stripes inside, a white-outlined square with vertical stripes inside, a white-outlined hexagon with vertical stripes inside.

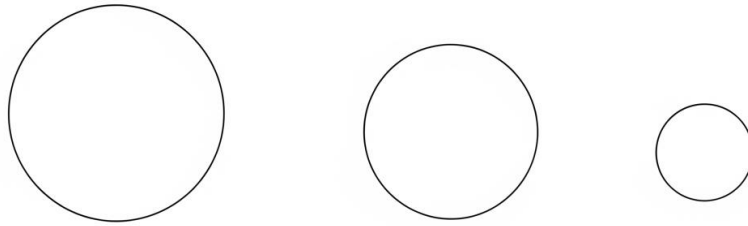
Figure PQ-41



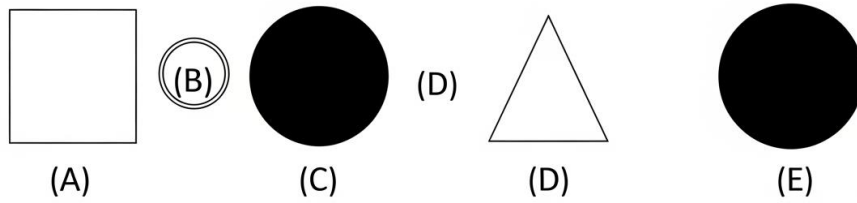
- A. pentagon with horizontal stripes
- B. diamond with diagonal stripes
- C. triangle with no stripes
- D. a triangle with vertical stripes inside
- E. oval with vertical stripes

156. The three shapes are: a large white-outlined circle, a medium white-outlined circle, a small white-outlined circle — same shape, decreasing size.

Figure PQ-42



Five answers



- A. large white square
- B. a tiny white-outlined circle
- C. medium black circle
- D. small white triangle
- E. large black circle

157. The three shapes are: a black-filled circle with a white "×" inside, a black-filled square with a white "×" inside, a black-filled pentagon with a white "×" inside.

Figure PQ-43

Answers



(A)



(B)



(C)



molo

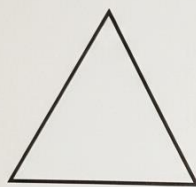


(E)

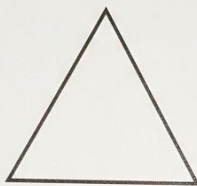
- A. white hexagon with black "x"
- B. black diamond with white "+"
- C. a black triangle with a white "x" inside
- D. black oval with no symbol
- E. black hexagon with white "π"

158. The three shapes are: a white-outlined acute triangle, a white-outlined equilateral triangle, a white-outlined right triangle — all types of triangles.

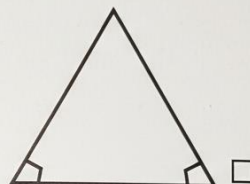
**Figure PQ-44**



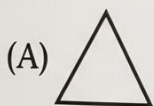
acute triangle  $< 90^\circ$



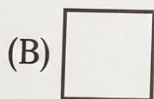
equilateral triangle



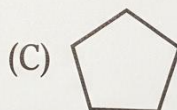
A right triangle



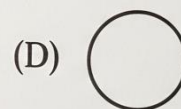
isosceles



squaron



D) diamond rhombus



Circle

- A. an isosceles triangle
- B. square
- C. pentagon
- D. diamond
- E. circle

**Section 9: Paper Folding (Questions 159–176)**

Directions: In each question below, a square piece of paper is folded and then one or more holes are punched through it. Choose the answer that shows what the paper looks like when it is completely unfolded.

159. A square piece of paper is folded in half from top to bottom along a horizontal centre line. A single hole is punched near the left side of the folded paper, close to the top edge (far from the fold). What does the paper look like when unfolded?

- A. one dot upper-left only
- B. two dots — upper-left and upper-right
- C. one dot centre-left

- D. two dots — both in the lower-left area
- E. two dots — one upper-left, one lower-left, symmetric around horizontal centre

160. A square piece of paper is folded in half from right to left along a vertical centre line. A single hole is punched near the bottom-left corner of the folded paper. What does the paper look like when unfolded?

- A. one dot bottom-left only
- B. two dots — both in the bottom-left area
- C. two dots — one bottom-left, one bottom-right, symmetric around vertical centre
- D. one dot bottom centre
- E. two dots — bottom-left and top-left

161. A square piece of paper is folded in half from left to right along a vertical centre line. A single hole is punched exactly on the fold edge, near the top. What does the paper look like when unfolded?

- A. one dot on the vertical centre line near the top
- B. two dots — top-left and top-right
- C. one dot top-right only
- D. two dots — both on the centre line
- E. one dot top-left only

162. A square piece of paper is folded diagonally from the top-right corner to the bottom-left corner, forming a triangle. A single hole is punched near the bottom-left vertex of the triangle. What does the paper look like when unfolded?

- A. one dot in the centre of the paper
- B. two dots — both near the bottom
- C. two dots — bottom-left and top-right
- D. two dots — one near bottom-left, one near top-right, symmetric around the diagonal
- E. one dot bottom-left only

163. A square piece of paper is folded in half from bottom to top, then folded again from right to left. A single hole is punched near the top-right corner of the small folded square. What does the paper look like when unfolded?

- A. two dots — top-right and top-left
- B. four dots — one near each corner of the paper
- C. one dot near the top-right corner only
- D. four dots — all in the upper half
- E. two dots — top-right and bottom-right

164. A square piece of paper is folded in half from top to bottom along a horizontal centre line. A single hole is punched near the centre of the folded paper, slightly to the right of centre. What does the paper look like when unfolded?

- A. one dot near centre-right
- B. two dots — one upper-left, one lower-left
- C. one dot dead centre
- D. two dots — both left of centre
- E. two dots — one slightly above centre-right, one slightly below centre-right, symmetric around horizontal centre

165. A square piece of paper is folded in half from left to right, then folded again from top to bottom. A single hole is punched near the top-left corner of the small folded square. What does the paper look like when unfolded?

- A. one dot near top-left corner
- B. two dots — top-left and bottom-left
- C. four dots — one near each corner of the paper
- D. four dots — all in the left half
- E. two dots — top-left and top-right

166. A square piece of paper is folded in half from bottom to top along a horizontal centre line. A single hole is punched exactly on the fold edge, near the right side. What does the paper look like when unfolded?

- A. one dot on the horizontal centre line near the right side

- B. two dots — upper-right and lower-right
- C. one dot lower-right only
- D. two dots — both on the fold line
- E. one dot upper-right only

167. A square piece of paper is folded in half from right to left along a vertical centre line. A single hole is punched near the upper-left area of the folded paper. What does the paper look like when unfolded?

- A. one dot upper-left only
- B. two dots — both in the upper-left area
- C. one dot upper-centre
- D. two dots — one upper-left, one upper-right, symmetric around vertical centre
- E. two dots — upper-left and lower-left

168. A square piece of paper is folded in half from top to bottom, then folded again from left to right. A single hole is punched near the centre of the small folded square. What does the paper look like when unfolded?

- A. one dot in the centre
- B. four dots — one near the centre of each quadrant, symmetric around both fold lines
- C. two dots — left-centre and right-centre
- D. four dots — near the four corners
- E. two dots — upper-centre and lower-centre

169. A square piece of paper is folded in half from left to right along a vertical centre line. A single hole is punched near the centre of the folded paper, slightly below the midpoint. What does the paper look like when unfolded?

- A. one dot below centre
- B. two dots — both in the right half
- C. one dot left of centre
- D. two dots — one above, one below centre

E. two dots — one in left half, one in right half, both slightly below horizontal centre, symmetric around vertical line

170. A square piece of paper is folded diagonally from the bottom-left corner to the top-right corner, forming a triangle. A single hole is punched near the centre of the triangle's longest side (the hypotenuse). What does the paper look like when unfolded?

A. one dot on the diagonal

B. two dots — both near the left side

C. two dots — one in upper-left area, one in lower-right area, symmetric around the diagonal

D. one dot in the centre

E. two dots — both near the top

171. A square piece of paper is folded in half from right to left, then folded again from bottom to top. A single hole is punched near the top-left corner of the small folded square. What does the paper look like when unfolded?

A. four dots — one near each corner of the paper

B. two dots — top-left and top-right

C. one dot near top-left corner

D. four dots — all in the left half

E. two dots — top-left and bottom-left

172. A square piece of paper is folded in half from top to bottom along a horizontal centre line. Two holes are punched — one near the left side and one near the right side of the folded paper, both near the top edge. What does the paper look like when unfolded?

A. two dots — one left, one right (both in upper half)

B. four dots — two in upper half, two in lower half

C. three dots — one left, one centre, one right

D. four dots — one near each corner area, symmetric around horizontal centre

E. two dots — both in the centre

173. A square piece of paper is folded in half from left to right, then folded again from top to bottom. A single hole is punched near the bottom-right corner of the small folded square. What does the paper look like when unfolded?

- A. one dot near bottom-right
- B. four dots — one near each corner of the paper
- C. two dots — bottom-left and bottom-right
- D. four dots — all in the bottom half
- E. two dots — top-right and bottom-right

174. A square piece of paper is folded in half from bottom to top along a horizontal centre line. A single hole is punched near the upper-left corner of the folded paper (far from the fold edge). What does the paper look like when unfolded?

- A. one dot upper-left only
- B. two dots — upper-left and upper-right
- C. one dot centre-left
- D. two dots — both in the lower half
- E. two dots — one upper-left, one lower-left, symmetric around horizontal centre

175. A square piece of paper is folded in half from right to left along a vertical centre line. A single hole is punched near the centre of the folded paper, at the exact midpoint vertically and horizontally. What does the paper look like when unfolded?

- A. two dots — one in the left half and one in the right half, both at the exact centre height, symmetric around the vertical centre line
- B. one dot dead centre
- C. two dots — one above centre, one below centre
- D. one dot left of centre
- E. two dots — both on the fold line

176. A square piece of paper is folded in half from left to right, then folded again from bottom to top. Two holes are punched — one near the top-left corner and one near the bottom-right corner of the small folded square. What does the paper look like when unfolded?

- A. four dots — one near each corner
- B. two dots — top-left and bottom-right
- C. eight dots — two near each corner, symmetric around both centre lines
- D. four dots — all near the centre
- E. six dots — three pairs

## Practice Exam 4: Answer Key and Explanations

### Verbal Analogies (Questions 1–24)

1. E — Sugar tastes sweet. A lemon tastes sour. The relationship is a food to its defining taste quality.
2. C — A painter creates work on a canvas. A writer creates work on paper. The relationship is a creator to the surface they work on.
3. A — A ship is stored and sheltered in a harbour. An airplane is stored and sheltered in a hangar. The relationship is a vehicle to the structure that houses it.
4. D — A paw is the foot of a cat. A hoof is the foot of a horse. The relationship is a type of animal foot to the animal it belongs to.
5. B — Empty and fill are opposites. Destroy and build are opposites. The relationship is antonyms describing opposite actions.
6. E — Lettuce is a key ingredient in a salad. Flour is a key ingredient in bread. The relationship is a raw ingredient to the food product it becomes.
7. C — An ant lives in a colony. A wolf lives in a pack. The relationship is an animal to the name of its group.
8. A — A photograph is made using a camera. A painting is made using a brush. The relationship is an artwork to the tool used to create it.
9. D — Transparent and opaque are opposites. Flexible and rigid are opposites. The relationship is antonyms describing contrasting physical properties.
10. B — A wick is the element inside a candle that produces light when lit. A filament is the element inside a bulb that produces light when heated. The relationship is the light-producing component to the device it sits inside.

- 11. E** — A cub is the young offspring of a lion. A lamb is the young offspring of a sheep. The relationship is a baby animal to its parent species.
- 12. A** — A menu lists what is available in a restaurant. A catalogue lists what is available in a store. The relationship is a listing document to the business it serves.
- 13. C** — The ankle is the joint connecting the foot to the leg. The wrist is the joint connecting the hand to the arm. The relationship is a joint to the limb it is part of.
- 14. D** — A volcano produces an eruption. An earthquake produces a tremor. The relationship is a geological event to the physical disturbance it causes.
- 15. B** — Flour is the raw material used to bake. Yarn is the raw material used to knit. The relationship is a crafting material to the activity that uses it.
- 16. E** — A conductor leads an orchestra. A principal leads a school. The relationship is a leader to the institution they direct.
- 17. A** — A telescope is used to see distant objects. A magnifying glass is used to see tiny objects. The relationship is a viewing tool to the quality of the objects it reveals.
- 18. C** — Hibernation is a survival behaviour of a bear. Migration is a survival behaviour of a goose. The relationship is a seasonal survival strategy to the animal known for it.
- 19. D** — A pedal is the part of a bicycle that the rider pushes to create movement. An oar is the part of a boat that the rower pushes to create movement. The relationship is a propulsion component to the vehicle it moves.
- 20. B** — A prologue comes at the beginning of a story. An epilogue comes at the end of a story. The relationship is a section of a book to its position in the narrative.
- 21. E** — A constellation is a group of stars. An archipelago is a group of islands. The relationship is a collective term to the individual items it gathers.
- 22. C** — Evaporation turns a substance into gas. Freezing turns a substance into solid. The relationship is a physical process to the state of matter it produces.
- 23. A** — A compass measures direction. A ruler measures length. The relationship is a measuring tool to the quantity it measures.
- 24. D** — A pupil is an opening in the eye that controls light. A valve is an opening in the heart that controls blood flow. The relationship is a regulating structure to the organ it belongs to.
- 25. B** — Loud thunder that wakes a sleeping baby and makes her cry has frightened or surprised her suddenly. Startled means suddenly alarmed or shocked by an unexpected event.

- 26. E** — Ancient ruins with original walls still standing after two thousand years have been maintained in good condition over time. Preserved means kept intact and protected from decay or destruction.
- 27. D** — An athlete who wakes at five o'clock every morning for months shows persistent, hardworking effort. Diligently means with careful, steady, and sustained effort.
- 28. A** — Fields that have turned brown under a relentless summer drought are empty of plant life and unproductive. Barren means too dry or poor in quality to produce vegetation.
- 29. C** — A tiny flaw in a suspect's story that leads to solving the case is a detail that doesn't match up. An inconsistency is a contradiction or mismatch between two statements.
- 30. B** — Countryside described as the opposite of noisy city streets, with only birdsong, is calm and tranquil. Peaceful means free from disturbance and noise.
- 31. E** — Measurements where even a small error could ruin the result must be extremely accurate and exact. Precise means measured or performed with great accuracy and exactness.
- 32. D** — A thick cloud cover that makes a bright afternoon feel like evening has hidden or concealed the sun. Obscured means blocked from view or made difficult to see.
- 33. A** — A school using fundraised money to get new computers has obtained them through purchase. Acquire means to gain possession of something through effort or transaction.
- 34. C** — A coral reef with hundreds of species of fish darting around is full of living creatures. Life describes the abundance of living organisms in an ecosystem.
- 35. B** — A first attempt that didn't work, followed by learning from mistakes and succeeding on the third try, describes an initial unsuccessful effort. A failure is an attempt that does not achieve the desired result.
- 36. E** — An earthquake causing buildings to need complete rebuilding has caused serious harm to structures. Damage means physical harm that impairs the value, usefulness, or function of something.
- 37. A** — A clear explanation that helps confused students finally understand a difficult concept has enabled them to comprehend it. Grasp means to understand or comprehend something fully.
- 38. D** — Northern lights creating brilliant colours that leave observers speechless produce an amazing visual show. Spectacular means beautiful and impressive in a dramatic way.
- 39. C** — Roots stretching deep underground that prevent hillside erosion are holding the soil firmly in place. Anchoring means fixing something securely so it cannot move or be displaced.
- 40. B** — A student who gradually volunteers to answer questions and joins clubs is becoming more self-assured over time. Confident means feeling certain about one's abilities and comfortable in social situations.

- 41. E** — Plants that lose their leaves in autumn to conserve resources are dropping them deliberately. Shed means to allow leaves or other coverings to fall off naturally as a biological process.
- 42. A** — The town council voting to take away old equipment and replace it with new structures is taking the old ones out. Remove means to take away or eliminate something from its current location.
- 43. D** — A surgeon's hands that remain perfectly still during a six-hour operation show no trembling or wavering. Steady means firmly fixed, stable, and not shaking or unsteady.
- 44. C** — Heavy rainfall that causes flood warnings has made the water level go up significantly. Raised means increased or elevated to a higher level.
- 45. A** — Salmon, trout, and bass are all types of freshwater or sport fish. Tuna is also a type of fish. Fishing, river, scale, and water are related to fish but are not fish themselves.
- 46. D** — Jupiter, Saturn, and Neptune are all planets in our solar system. Uranus is also a planet. Star, moon, telescope, and orbit are related to astronomy but are not planets.
- 47. E** — Broccoli, spinach, and celery are all vegetables. Kale is also a vegetable. Fruit, salad, farm, and cook are related to food but are not specific vegetables.
- 48. B** — Ruler, protractor, and compass are all tools used for measuring or drawing in mathematics. Measuring tool is the category they share. School, pencil, math, and paper are related but are not measuring tools.
- 49. C** — Erosion, weathering, and deposition are all geological processes that shape Earth's surface. Geological process is the category they share. Rock, science, mountain, and rain are related but are not processes.
- 50. A** — Waltz, tango, and ballet are all types of dance. Dance is the category they share. Shoe, stage, partner, and music are related to dance but are not dances themselves.
- 51. E** — Novel, short story, and novella are all forms of prose fiction. Fiction form is the category they share. Author, library, reading, and page are related to literature but are not fiction forms.
- 52. D** — Liver, kidney, and lung are all internal organs of the body. Organ is the category they share. Blood, doctor, anatomy, and body are related but are not specific organs.
- 53. B** — Limestone, sandstone, and shale are all sedimentary rocks formed from deposited material. Sedimentary rock is the category they share. Mineral, cave, fossil, and geology are related but are not sedimentary rocks.
- 54. C** — Peninsula, island, and continent are all types of landforms or land masses. Landform is the category they share. Water, map, travel, and geography are related but are not landforms.

**55. A** — Thermometer, barometer, and anemometer are all instruments used to measure weather conditions. Weather instrument is the category they share. Science, glass, mercury, and number are related but are not weather instruments.

**56. E** — Nile, Amazon, and Danube are all rivers. River is the category they share. Water, bridge, country, and fish are related to rivers but are not rivers themselves.

**57. D** — Herbivore, carnivore, and omnivore are all classifications based on what an animal eats. Dietary classification is the category they share. Animal, science, food, and jungle are related but are not dietary classifications.

**58. B** — Photosynthesis, respiration, and digestion are all biological processes that occur in living organisms. Biological process is the category they share. Plant, oxygen, energy, and cell are related but are not processes themselves.

**59. A** — Simile, personification, and hyperbole are all literary devices used in writing. Literary device is the category they share. Poem, english, sentence, and book are related but are not literary devices.

**60. C** — Revolution, rotation, and orbit are all types of motion that occur in space. Astronomical motion is the category they share. Space, earth, gravity, and sun are related but are not types of motion.

### **Number Analogies (Questions 61–78)**

**61. E** — The rule is multiply by 4:  $5 \times 4 = 20$ , and  $8 \times 4 = 32$ . Applying the same rule to 3:  $3 \times 4 = 12$ .

**62. B** — The rule is divide by 2:  $18 \div 2 = 9$ , and  $14 \div 2 = 7$ . Applying the same rule to 22:  $22 \div 2 = 11$ .

**63. D** — The rule is multiply by 3 then add 1:  $3 \times 3 + 1 = 10$ , and  $5 \times 3 + 1 = 16$ . Applying the same rule to 7:  $7 \times 3 + 1 = 22$ .

**64. A** — The rule is cube the number:  $2 \times 2 \times 2 = 8$ , and  $4 \times 4 \times 4 = 64$ . Applying the same rule to 3:  $3 \times 3 \times 3 = 27$ .

**65. C** — The rule is subtract 5:  $9 - 5 = 4$ , and  $13 - 5 = 8$ . Applying the same rule to 21:  $21 - 5 = 16$ .

**66. E** — The rule is square the number:  $5 \times 5 = 25$ , and  $9 \times 9 = 81$ . Applying the same rule to 7:  $7 \times 7 = 49$ .

**67. B** — The rule is multiply by 3 then add 2:  $1 \times 3 + 2 = 5$ , and  $3 \times 3 + 2 = 11$ . Applying the same rule to 5:  $5 \times 3 + 2 = 17$ .

**68. D** — The rule is divide by 6:  $42 \div 6 = 7$ , and  $30 \div 6 = 5$ . Applying the same rule to 48:  $48 \div 6 = 8$ .

**69. A** — The rule is multiply by 2 then subtract 1:  $7 \times 2 - 1 = 13$ , and  $11 \times 2 - 1 = 21$ . Applying the same rule to 4:  $4 \times 2 - 1 = 7$ .

70. C — The rule is add 1:  $8 + 1 = 9$ , and  $15 + 1 = 16$ . Applying the same rule to 32:  $32 + 1 = 33$ .
71. E — The rule is multiply by 6:  $3 \times 6 = 18$ , and  $5 \times 6 = 30$ . Applying the same rule to 8:  $8 \times 6 = 48$ .
72. B — The rule is multiply by 3 then subtract 1:  $4 \times 3 - 1 = 11$ , and  $6 \times 3 - 1 = 17$ . Applying the same rule to 9:  $9 \times 3 - 1 = 26$ .
73. D — The rule is divide by 4:  $100 \div 4 = 25$ , and  $60 \div 4 = 15$ . Applying the same rule to 80:  $80 \div 4 = 20$ .
74. A — The rule is square the number:  $6 \times 6 = 36$ , and  $4 \times 4 = 16$ . Applying the same rule to 9:  $9 \times 9 = 81$ .
75. C — The rule is subtract 5:  $12 - 5 = 7$ , and  $20 - 5 = 15$ . Applying the same rule to 18:  $18 - 5 = 13$ .
76. E — The rule is multiply by 5 then subtract 1:  $2 \times 5 - 1 = 9$ , and  $3 \times 5 - 1 = 14$ . Applying the same rule to 4:  $4 \times 5 - 1 = 19$ .
77. B — The rule is divide by 5:  $50 \div 5 = 10$ , and  $35 \div 5 = 7$ . Applying the same rule to 20:  $20 \div 5 = 4$ .
78. A — The rule is multiply by 2 then add 1:  $7 \times 2 + 1 = 15$ , and  $12 \times 2 + 1 = 25$ . Applying the same rule to 5:  $5 \times 2 + 1 = 11$ .

### Number Series (Questions 79–96)

79. C — The pattern adds 5 each time: 5, 10, 15, 20. The next term is  $20 + 5 = 25$ .
80. D — The pattern multiplies by 3 each time: 3, 9, 27, 81. The next term is  $81 \times 3 = 243$ .
81. A — The pattern subtracts 10 each time: 70, 60, 50, 40. The next term is  $40 - 10 = 30$ .
82. E — The gaps increase by 1 each time: +1, +2, +3, +4. The next gap is +5, so  $11 + 5 = 16$ .
83. B — The pattern doubles each time: 3, 6, 12, 24. The next term is  $24 \times 2 = 48$ .
84. C — The pattern adds 7 each time: 7, 14, 21, 28. The next term is  $28 + 7 = 35$ .
85. D — The pattern follows perfect squares:  $1^2$ ,  $2^2$ ,  $3^2$ ,  $4^2$ ,  $5^2$ . The next term is  $6^2 = 36$ .
86. A — The pattern divides by 2 each time: 400, 200, 100, 50. The next term is  $50 \div 2 = 25$ .
87. E — The gaps increase by 1 each time: +1, +2, +3, +4. The next gap is +5, so  $12 + 5 = 17$ .
88. B — This is the Fibonacci sequence where each term is the sum of the two before it:  $8 + 13 = 21$ . The next term is 21.

- 89. D** — The pattern divides by 2 each time: 144, 72, 36, 18. The next term is  $18 \div 2 = 9$ .
- 90. A** — The pattern adds 6 each time: 6, 12, 18, 24. The next term is  $24 + 6 = 30$ .
- 91. C** — The pattern multiplies by 3 each time: 2, 6, 18, 54. The next term is  $54 \times 3 = 162$ .
- 92. E** — The gaps increase by 1 each time (triangular numbers): +2, +3, +4, +5, +6. The next gap is +7, so  $21 + 7 = 28$ .
- 93. B** — The pattern subtracts 5 each time: 85, 80, 75, 70. The next term is  $70 - 5 = 65$ .
- 94. A** — The gaps increase by 2 each time: +2, +4, +6, +8. The next gap is +10, so  $23 + 10 = 33$ .
- 95. D** — The pattern multiplies by 3 each time: 5, 15, 45, 135. The next term is  $135 \times 3 = 405$ .
- 96. C** — The pattern is factorials:  $1! = 1$ ,  $2! = 2$ ,  $3! = 6$ ,  $4! = 24$ . The next term is  $5! = 120$ .

### **Number Puzzles (Questions 97–114)**

- 97. A** — To find the missing number:  $26 - 11 = 15$ . Checking:  $11 + 15 = 26$ . The missing value is 15.
- 98. D** — To find the missing number:  $63 \div 7 = 9$ . Checking:  $9 \times 7 = 63$ . The missing value is 9.
- 99. E** — To find the missing number:  $41 - 17 = 24$ . Checking:  $41 - 24 = 17$ . The missing value is 24.
- 100. B** — To find the missing number:  $84 \div 12 = 7$ . Checking:  $84 \div 7 = 12$ . The missing value is 7.
- 101. C** — To find the missing number:  $44 - 27 = 17$ . Checking:  $17 + 27 = 44$ . The missing value is 17.
- 102. A** — To find the missing number:  $72 \div 8 = 9$ . Checking:  $8 \times 9 = 72$ . The missing value is 9.
- 103. D** — Solve step by step:  $6 \times ? - 5 = 31$ . First,  $31 + 5 = 36$ . Then  $36 \div 6 = 6$ . Checking:  $6 \times 6 - 5 = 31$ .
- 104. E** — To find the missing number:  $38 + 23 = 61$ . Checking:  $61 - 23 = 38$ . The missing value is 61.
- 105. B** — First compute the left side:  $7 \times 8 = 56$ . Then solve  $56 = ? + 16$ , so  $? = 56 - 16 = 40$ .
- 106. C** — Three identical values sum to 33:  $33 \div 3 = 11$ . Checking:  $11 + 11 + 11 = 33$ . The triangle symbol equals 11.
- 107. A** — To find the missing number:  $108 \div 12 = 9$ . Checking:  $108 \div 9 = 12$ . The missing value is 9.
- 108. E** — Solve step by step:  $5 \times ? + 3 = 38$ . First,  $38 - 3 = 35$ . Then  $35 \div 5 = 7$ . Checking:  $5 \times 7 + 3 = 38$ .

**109. B** — Two identical values plus 9 equal 31:  $31 - 9 = 22$ , then  $22 \div 2 = 11$ . Checking:  $11 + 11 + 9 = 31$ . The missing symbol equals 11.

**110. D** — First compute the left side:  $81 \div 9 = 9$ . Then solve  $9 = ? - 4$ , so  $? = 9 + 4 = 13$ .

**111. A** — First solve for the star:  $\star + \star = 24$ , so  $\star = 12$ . Then  $\star - 5 = 12 - 5 = 7$ . The answer is 7.

**112. C** — First compute the right side:  $7 \times 6 = 42$ . Then solve  $28 + ? = 42$ , so  $? = 42 - 28 = 14$ .

**113. E** — Solve step by step:  $(? + 6) \times 4 = 36$ . First,  $36 \div 4 = 9$ . Then  $9 - 6 = 3$ . Checking:  $(3 + 6) \times 4 = 36$ .

**114. B** — First compute the left side:  $100 \div 10 = 10$ . Then solve  $10 = ? + 5$ , so  $? = 10 - 5 = 5$ .

### Figure Matrices (Questions 115–136)

**115. D** — The rule across the top row changes the fill from white-outlined to black-filled. The rule down the left column changes the shape from circle to pentagon. Applying both: the missing shape is a black-filled pentagon.

**116. B** — The rule across the top row reduces the size from large to small. The rule down the left column changes the shape from triangle to hexagon. Applying both: the missing shape is a small white-outlined hexagon.

**117. E** — The rule across the top row increases the number of internal dots from one to two. The rule down the left column changes the outer shape from square to circle. Applying both: the missing shape is a circle with two small dots inside.

**118. A** — The rule across the top row is horizontal reflection (right-pointing becomes left-pointing). The rule down the left column changes the shape from arrow to chevron. Applying the reflection to the upward chevron: it becomes a downward-pointing chevron.

**119. C** — The rule across the top row changes the fill pattern from striped to dotted. The rule down the left column changes the shape from circle to diamond. Applying both: the missing shape is a dotted diamond.

**120. D** — The rule across the top row removes the internal circle from the shape. The rule down the left column changes the outer shape from triangle to square. Applying both: the missing shape is a square with no shape inside.

**121. B** — The rule across the top row increases the number of concentric shapes from two to three. The rule down the left column changes the shape from circles to triangles. Applying both: the missing shape is three concentric triangles.

**122. E** — The rule across the top row shifts the shaded half from the left to the right. The rule down the left column changes the shape from hexagon to oval. Applying both: the missing shape is an oval with its right half shaded black.

**123. A** — The rule across the top row advances the letter by one position in the alphabet ( $A \rightarrow B$ ). The rule down the left column changes the outer shape from square to circle. Applying both: the missing shape is a circle containing "B."

**124. C** — The rule across the top row changes the fill from black-filled to white-outlined. The rule down the left column changes the shape from star to heart. Applying both: the missing shape is a white-outlined heart.

**125. D** — The rule across the top row adds a horizontal line through the centre of the shape. The rule down the left column changes the shape from triangle to diamond. Applying both: the missing shape is a diamond with a horizontal line through its centre.

**126. B** — The rule across the top row increases the count from three to five. The rule down the left column changes the shape from dots to squares. Applying both: the missing shape is five small black squares in a horizontal row.

**127. E** — The rule across the top row increases the size from small to medium. The rule down the left column changes the shape from square to oval. Applying both: the missing shape is a medium white-outlined oval.

**128. A** — The rule across the top row removes the small shape sitting on top. The rule down the left column changes the base shape from circle to hexagon. Applying both: the missing shape is a hexagon with no shape on top.

**129. C** — The rule across the top row increases the number of sides by 2 (triangle 3  $\rightarrow$  pentagon 5). The rule down the left column increases the number of sides by 1 (triangle 3  $\rightarrow$  square 4). The bottom-right must have  $4 + 2 = 6$  sides. The missing shape is a hexagon.

**130. D** — The rule across the top row changes the fill from black-filled to white-outlined. The rule down the left column changes the shape from rectangle to oval. Applying both: the missing shape is a white-outlined oval.

**131. B** — The rule across the top row moves the dot position from the upper-left to the upper-right area. The rule down the left column changes the outer shape from pentagon to circle. Applying both: the missing shape is a circle with a dot in the upper-right area.

**132. E** — The rule across the top row changes the internal shape (circle  $\rightarrow$  triangle inside the outer shape). The rule down the left column changes the outer shape from square to diamond. Applying both: the missing shape is a diamond containing a triangle.

**133. A** — The rule across the top row changes the fill from dotted to black-filled. The rule down the left column changes the shape from square to hexagon. Applying both: the missing shape is a black-filled hexagon.

**134. C** — The rule across the top row changes the internal symbol from "+" to "×." The rule down the left column changes the outer shape from circle to square. Applying both: the missing shape is a black-filled square with a white "×" inside.

**135. D** — The rule across the top row adds a small black-filled square inside the centre of the shape. The rule down the left column changes the outer shape from circle to triangle. Applying both: the missing shape is a large white-outlined triangle with a small black-filled square inside.

**136. B** — The rule across the top row increases the number of internal dots from one to three. The rule down the left column changes the outer shape from diamond to star. Applying both: the missing shape is a star with three dots inside.

### **Figure Classification (Questions 137–158)**

**137. C** — All three given shapes are filled with a dot/stipple pattern. A dotted square matches this attribute. The other options are striped, white-outlined, or black-filled.

**138. A** — All three given shapes are large and white-outlined. A large white-outlined hexagon matches both size and fill. The other options fail on size (small) or fill (black, striped).

**139. E** — All three given shapes contain a vertical line through their centres. A pentagon with a vertical line through its centre matches this attribute. The other options have horizontal lines, diagonal lines, or no lines.

**140. D** — All three given shapes are small and black-filled. A small black-filled diamond matches both size and fill. The other options fail on size (large, medium) or fill (white, striped).

**141. B** — All three given shapes are white-outlined shapes containing a small white-outlined square inside. A diamond with a small white-outlined square inside matches this pattern. The other options have wrong internal shapes or no internal shape.

**142. C** — All three given shapes are divided vertically with the left half black and the right half white. A triangle with the same left-black, right-white division matches this attribute. The other options are fully filled, have horizontal divisions, or reversed halves.

**143. A** — All three given shapes point to the right. A right-pointing crescent also has a rightward orientation. The other options point left, up, or down.

**144. E** — All three given shapes are large black-filled shapes with a white minus sign (−) inside. A large black-filled triangle with a white minus sign inside matches this pattern. The other options have wrong symbols or wrong fill.

- 145. D** — The three shapes increase in number of sides: triangle (3), square (4), pentagon (5). A hexagon (6 sides) continues the consecutive polygon progression.
- 146. B** — All three given shapes are medium-sized and filled with horizontal stripes. A medium striped pentagon matches both size and fill. The other options fail on size (large, small) or fill (white, black).
- 147. C** — All three given shapes are white-outlined and contain exactly three dots inside. A pentagon with three dots inside matches both attributes. The other options have wrong dot counts or wrong fill.
- 148. A** — All three given shapes are large white-outlined shapes containing a small black-filled circle inside. A large white-outlined diamond with a small black-filled circle inside matches this pattern. The other options have wrong internal shapes, wrong fill, or wrong size.
- 149. E** — All three given shapes are different types of triangles (right, isosceles, obtuse). A scalene triangle is also a type of triangle. Square, pentagon, circle, and diamond are not triangles.
- 150. D** — All three given shapes are large and black-filled. A large black-filled lightning bolt matches both size and fill. The other options fail on size (small, medium) or fill (white, striped).
- 151. B** — All three given shapes are drawn with dashed lines. A dashed-line triangle matches this attribute. The other options use solid lines or dotted lines.
- 152. C** — All three given shapes contain a diagonal line from upper-left to lower-right. A triangle with a diagonal line from upper-left to lower-right matches this attribute. The other options have horizontal lines, vertical lines, or no lines.
- 153. A** — All three given shapes are medium-sized and white-outlined. A medium white-outlined star matches both size and fill. The other options fail on size (large, small) or fill (black, striped).
- 154. E** — All three given shapes contain the letter "C" inside. A square with "C" inside matches this attribute. The other options contain different letters or no letter.
- 155. D** — All three given shapes contain vertical stripes inside. A triangle with vertical stripes inside matches this attribute. The other options have horizontal stripes, diagonal stripes, or no stripes.
- 156. B** — All three given shapes are white-outlined circles of decreasing size. A tiny white-outlined circle (smaller than the small one) continues the same shape, same fill, decreasing size pattern.
- 157. C** — All three given shapes are black-filled with a white "x" inside. A black-filled triangle with a white "x" inside matches this pattern. The other options have wrong symbols or wrong fill.
- 158. A** — All three given shapes are different types of triangles (acute, equilateral, right). An isosceles triangle is also a type of triangle. Square, pentagon, diamond, and circle are not triangles.
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## Paper Folding (Questions 159–176)

**159. E** — The paper folds top onto bottom along a horizontal centre line. A hole near the left side, close to the top edge (far from fold), punches through both layers. When unfolded, two holes appear: one in the upper-left and one in the lower-left, symmetric around the horizontal centre line.

**160. C** — The paper folds right onto left along a vertical centre line. A hole near the bottom-left corner punches through both layers. When unfolded, two holes appear: one near the bottom-left and one near the bottom-right, symmetric around the vertical centre line.

**161. A** — The paper folds left onto right along a vertical centre line. A hole punched exactly on the fold edge near the top sits directly on the line of symmetry. When unfolded, only one hole appears on the vertical centre line near the top.

**162. D** — The paper folds diagonally from top-right to bottom-left. A hole near the bottom-left vertex punches through both layers. When unfolded, two holes appear: one near the bottom-left and one near the top-right, symmetric around the diagonal fold line.

**163. B** — Two folds create four layers: first bottom to top, then right to left. A hole near the top-right corner of the small square punches through all four layers. When fully unfolded, four holes appear — one near each corner of the paper.

**164. E** — The paper folds top onto bottom along a horizontal centre line. A hole near the centre, slightly right of centre, punches through both layers. When unfolded, two holes appear: one slightly above centre-right and one slightly below centre-right, symmetric around the horizontal centre line.

**165. C** — Two folds create four layers: first left to right, then top to bottom. A hole near the top-left corner of the small square punches through all four layers. When fully unfolded, four holes appear — one near each corner of the paper.

**166. A** — The paper folds bottom onto top along a horizontal centre line. A hole punched exactly on the fold edge near the right side sits directly on the line of symmetry. When unfolded, only one hole appears on the horizontal centre line near the right side.

**167. D** — The paper folds right onto left along a vertical centre line. A hole near the upper-left area punches through both layers. When unfolded, two holes appear: one near the upper-left and one near the upper-right, symmetric around the vertical centre line.

**168. B** — Two folds create four layers: first top to bottom, then left to right. A hole near the centre of the small square punches through all four layers. When fully unfolded, four holes appear — one near the centre of each quadrant, symmetric around both fold lines.

**169. E** — The paper folds left onto right along a vertical centre line. A hole slightly below the midpoint punches through both layers. When unfolded, two holes appear: one in the left half and one in the right half, both slightly below the horizontal centre, symmetric around the vertical fold line.

**170. C** — The paper folds diagonally from bottom-left to top-right. A hole near the centre of the hypotenuse punches through both layers. When unfolded, two holes appear: one in the upper-left area and one in the lower-right area, symmetric around the diagonal fold line.

**171. A** — Two folds create four layers: first right to left, then bottom to top. A hole near the top-left corner of the small square punches through all four layers. When fully unfolded, four holes appear — one near each corner of the paper.

**172. D** — The paper folds top onto bottom along a horizontal centre line. Two holes are punched — one near the left and one near the right, both near the top edge. Each passes through both layers. When unfolded, four holes appear: two in the upper half (left and right) and two mirrored in the lower half, symmetric around the horizontal centre line.

**173. B** — Two folds create four layers: first left to right, then top to bottom. A hole near the bottom-right corner of the small square punches through all four layers. When fully unfolded, four holes appear — one near each corner of the paper.

**174. E** — The paper folds bottom onto top along a horizontal centre line. A hole near the upper-left corner (far from the fold edge) punches through both layers. When unfolded, two holes appear: one in the upper-left and one in the lower-left, symmetric around the horizontal centre line.

**175. A** — The paper folds right onto left along a vertical centre line. A hole at the exact centre of the folded paper punches through both layers. When unfolded, two holes appear: one in the left half and one in the right half, both at the exact centre height, symmetric around the vertical fold line.

**176. C** — Two folds create four layers: first left to right, then bottom to top. Two holes are punched — one near the top-left and one near the bottom-right of the small square. Each passes through all four layers, producing four holes each — eight holes total. When fully unfolded, eight dots appear: two near each corner, symmetric around both centre lines.