

Grade 2: NGN LOGIC OLYMPIAD 2023 - Section A

Student Name: _____

Maximum Time: 75 minutes

Maximum Marks: 60

EXAM INSTRUCTIONS

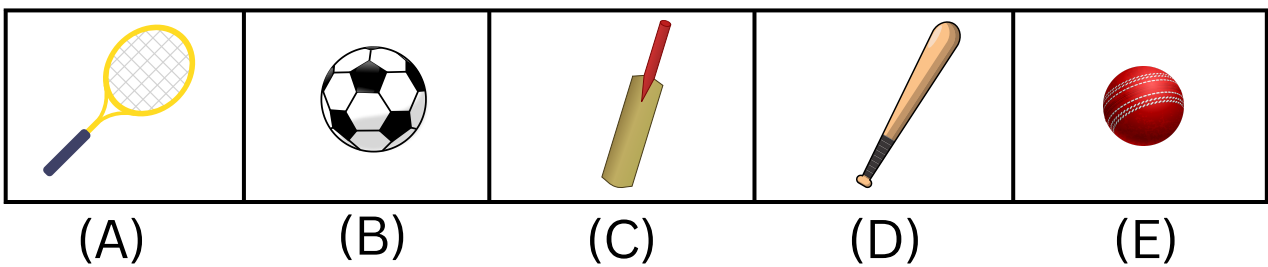
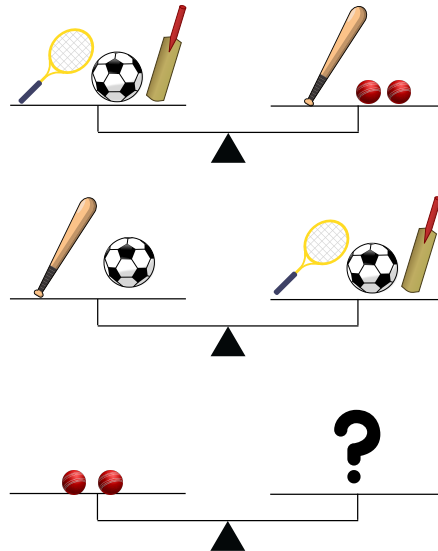
1. There are **20** questions in this paper.
 - a. **Section A (Basic Level):** 2 Marks, 10 Questions
 - b. **Section B (Moderate Level):** 3 Marks, 5 Questions
 - c. **Section C (Difficult Level):** 5 Marks, 5 Questions
2. No points will be deducted for each incorrect answer. Do not skip any questions. Use your logical reasoning skills to guess the answer.
3. Types of Questions: **Section A:** Pick one correct answer.
Section B: Pick all correct answers. **Section C:** Fill in the blanks and pick all correct answers.
4. The questions in Sections B and C are based on questions related to social impact and global citizenship. The questions in Section B will focus on solving social issues logically. Section C will discuss international global problems that need rational solutions.
5. Pencils, erasers, rulers, and rough paper for calculations are allowed.
6. For some questions in Sections B and C, mark your answer by filling in the bubbles. For Eg: 8.



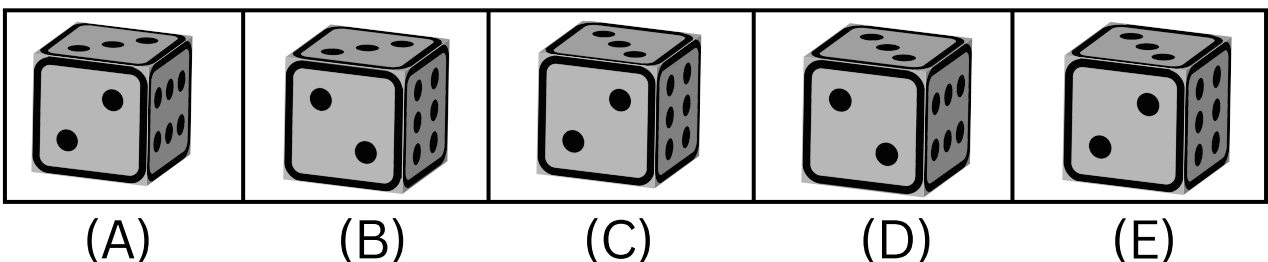
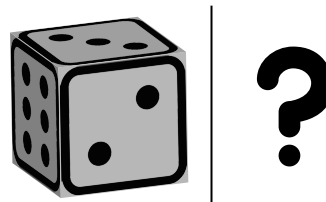
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SECTION A: 2 MARKS EACH

1. **Choose** from the following objects to balance the weight.

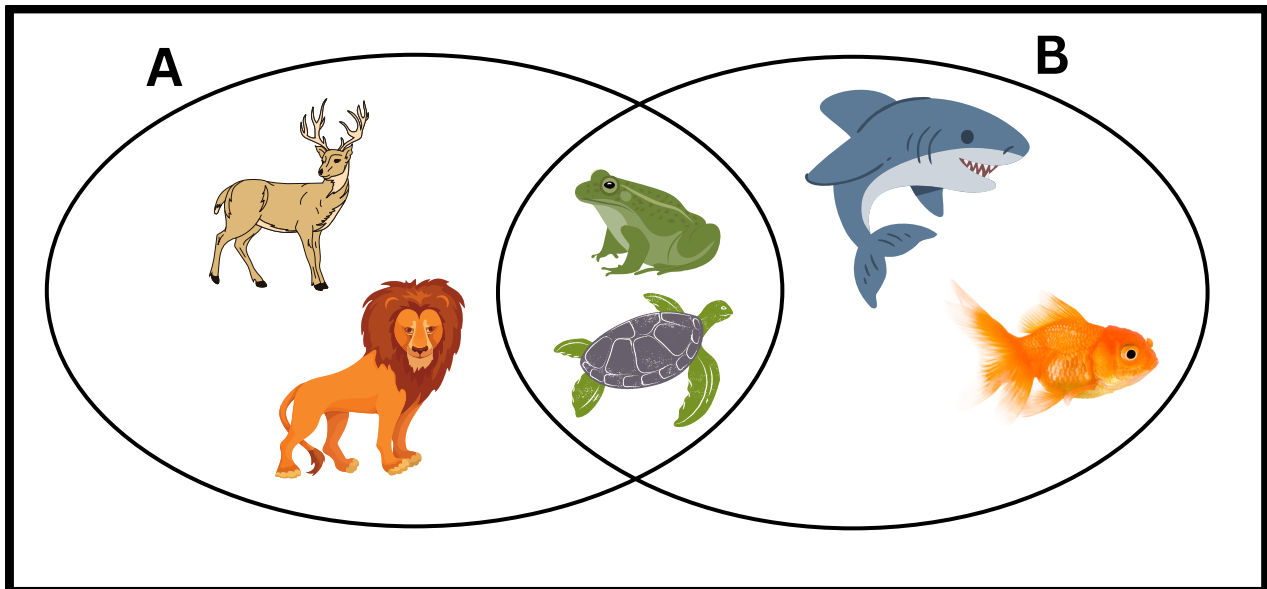


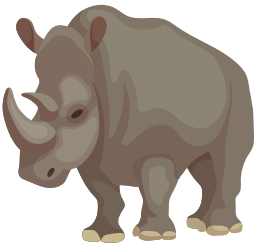

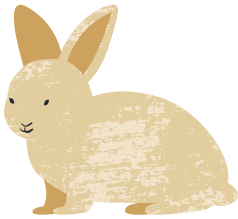

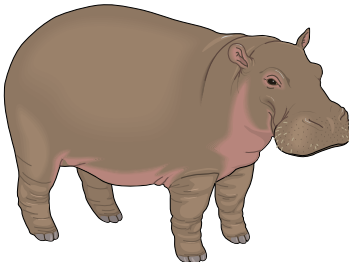
2. **Choose** the mirror image of the given figure from the options.



SECTION A: 2 MARKS EACH

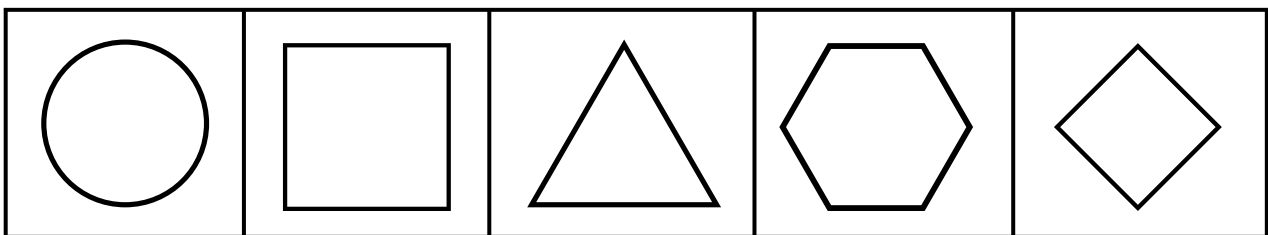
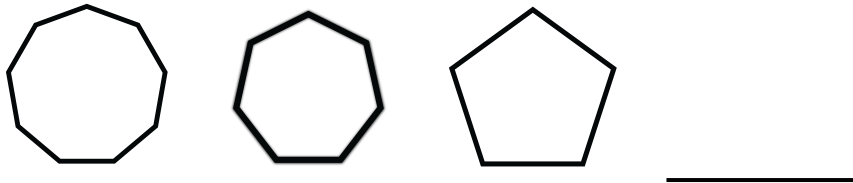
3. Observe the Venn diagram below. **Choose** the animal that will not belong to either A or B.



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

SECTION A: 2 MARKS EACH

4. **Choose** the pattern from the options below that will come next.



(A)

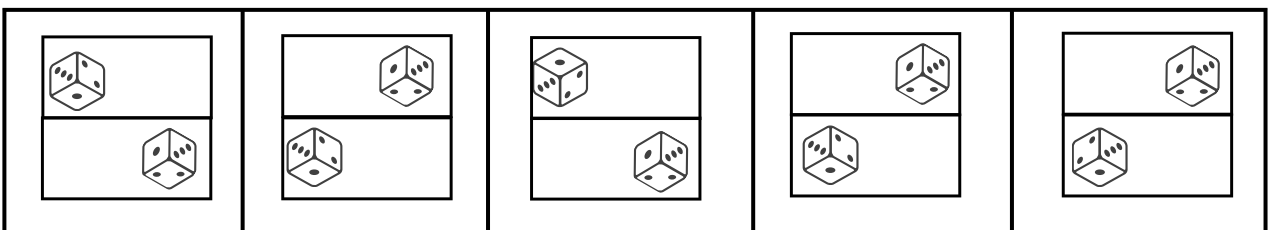
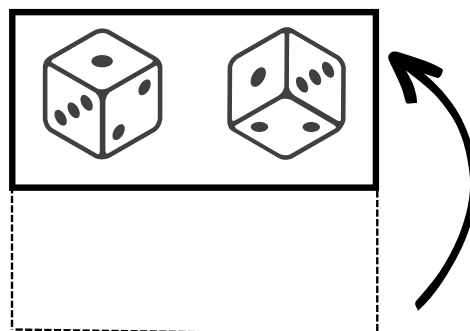
(B)

(C)

(D)

(E)

5. **Choose** a transparent sheet that will form the given image when folded as shown below.



(A)

(B)

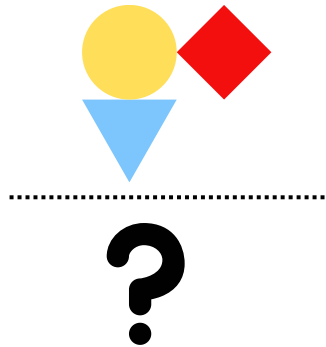
(C)

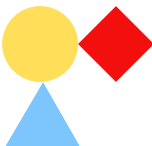
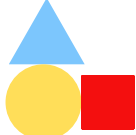
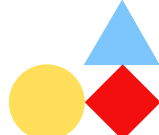
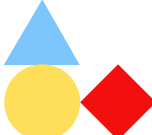
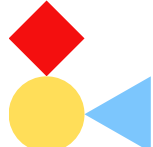
(D)

(E)










SECTION A: 2 MARKS EACH


6. **Choose** the mirror image of the figure given below.



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

7. If the value of the pink circle is 4, **choose** the value of circles of **yellow and blue, respectively**.

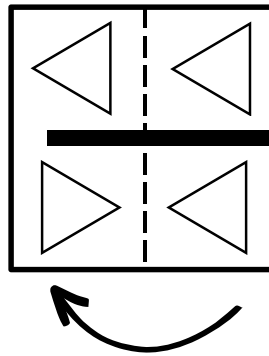
			
+			
+			
	<div style="display: flex; justify-content: space-around; width: 100%;"> 9 9 8 </div>		

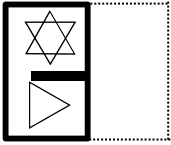
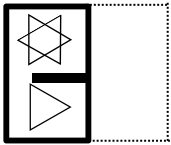
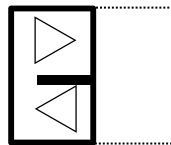
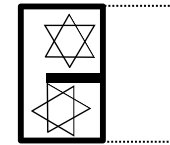
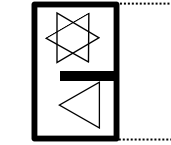
 = 4

2,3	3,4	5,3	6,2	3,3
(A)	(B)	(C)	(D)	(E)

SECTION A: 2 MARKS EACH

8. **Choose** the pattern appearing when the sheet is folded at the dotted line.



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

9. **Choose** one number similar to the given numbers from the options that would fill the blank.

15 75 ? 60 30

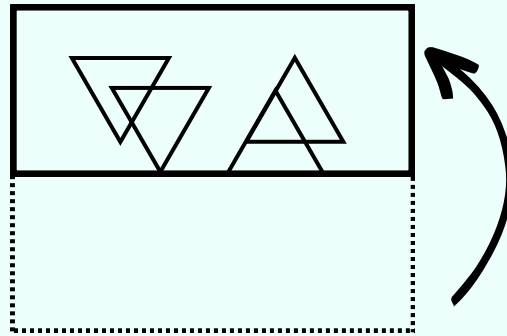
35	40	50	55	45
(A)	(B)	(C)	(D)	(E)

10. **Choose** the formula that is the odd one out.

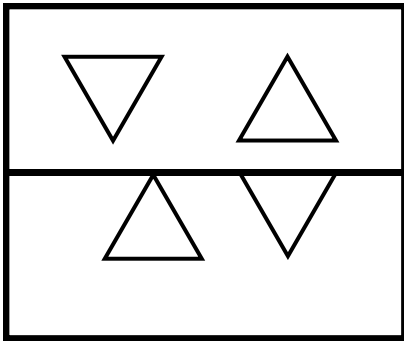
7×6	$18 + 24$	$50 - 8$	$84 \div 2$	13×4
(A)	(B)	(C)	(D)	(E)

SECTION A: 2 MARKS EACH

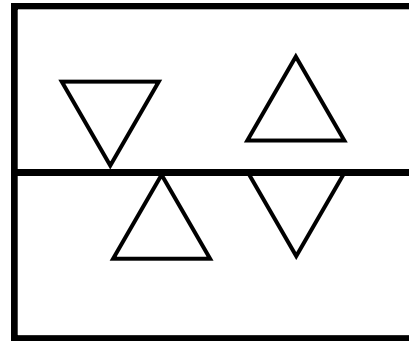
11. **Choose** a transparent sheet that will form the given image when folded as shown below.



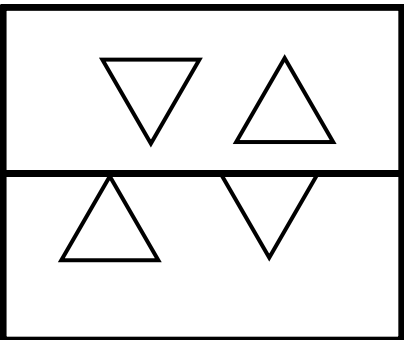
(A)



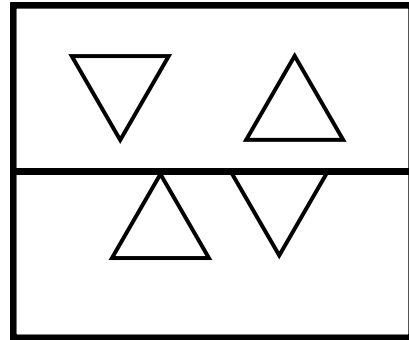
(B)



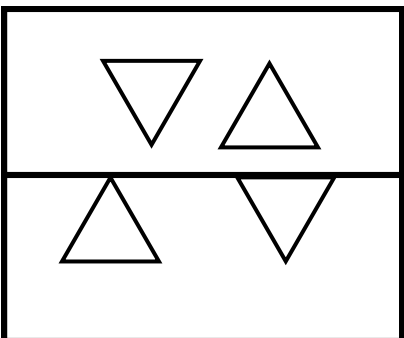
(C)



(D)



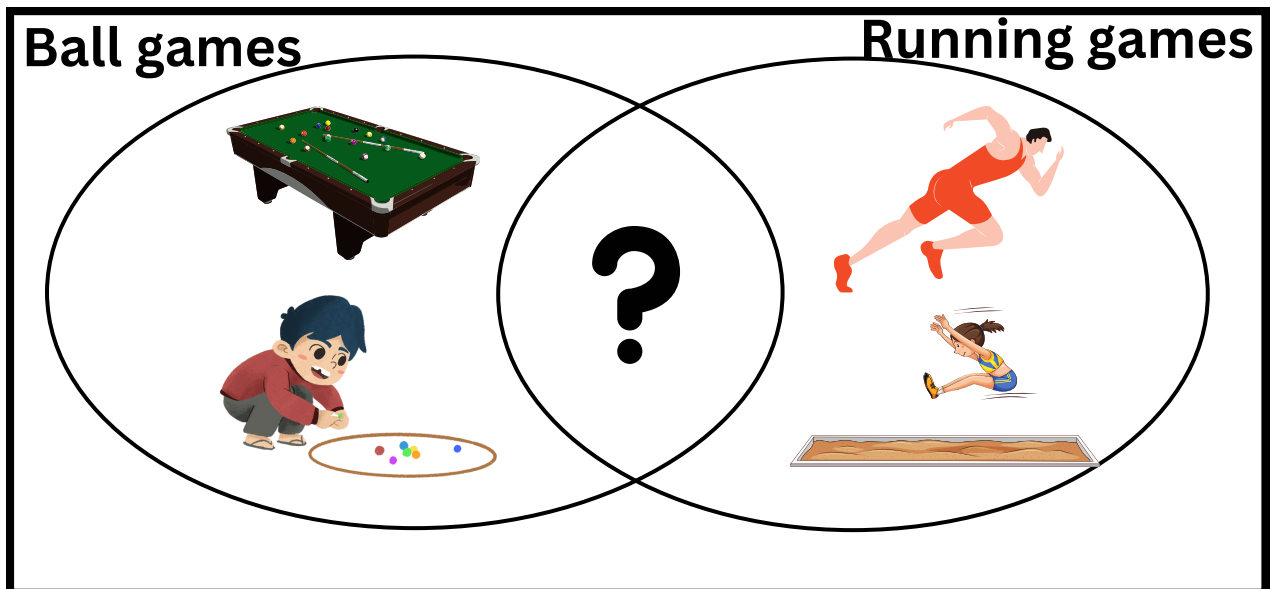
(E)



SECTION A: 2 MARKS EACH

12. Observe the Venn diagram below.

Choose the game that belongs to both ball and running games.



(A)



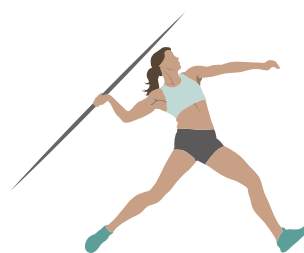
(B)



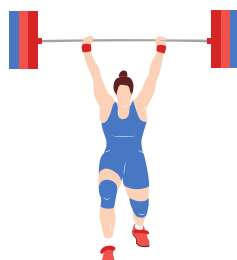
(C)



(D)

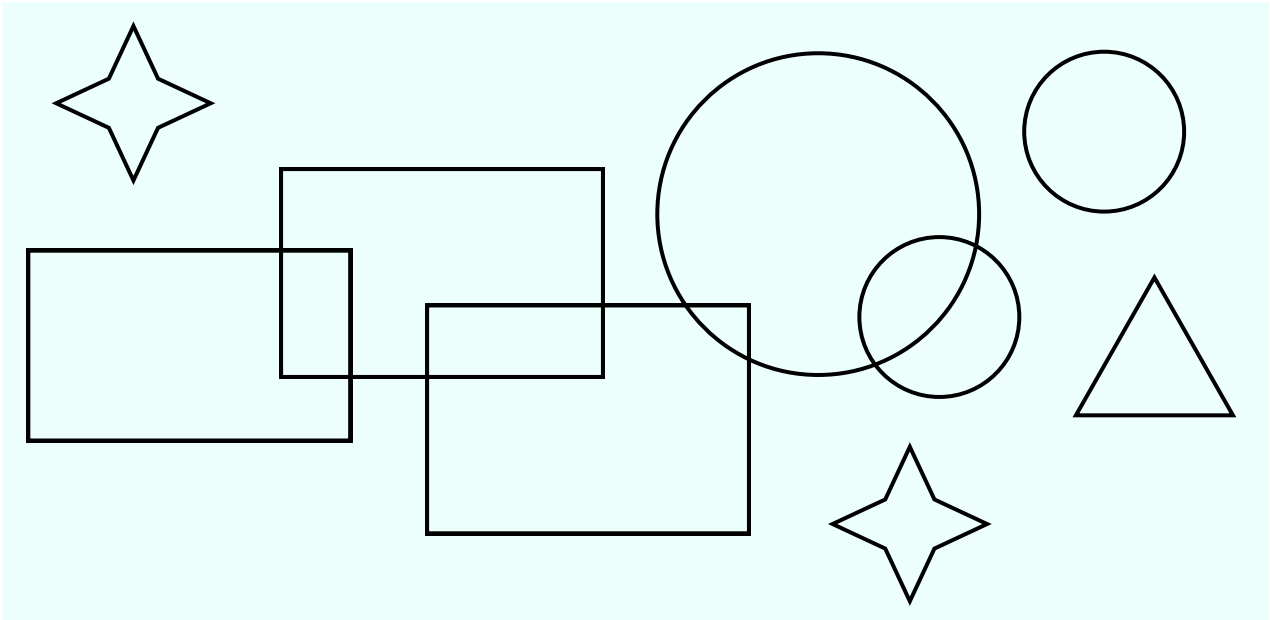


(E)



SECTION A: 2 MARKS EACH

13. **Choose** the shape that appears the most in the given picture.



(A) Square

(B) Circle

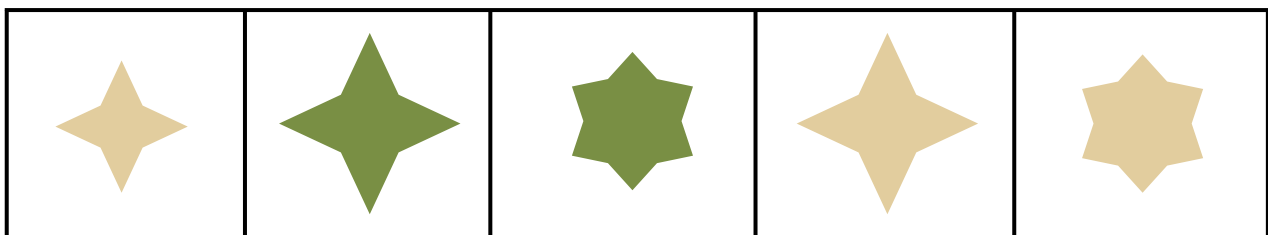
(C) Star

(D) Triangle

(E) Rectangle

SECTION A: 2 MARKS EACH

14. **Choose** the pattern from the options below that will come next.



(A)

(B)

(C)

(D)

(E)

15. **Choose** the missing number from the options to complete the pattern.

3, 7, 11, 15, ?

17	20	21	19	16
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(A)

(B)

(C)

(D)

(E)

SECTION A: 2 MARKS EACH

16. **Choose** the odd letter from the given options.

S	M	L	J	P
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(A)

(B)

(C)

(D)

(E)

17. Hank hears the word "CARD," and he writes it as "DRAC." What will he write if he hears the word "JAMES"?

Choose the correct answer from the options.

(A) JAMES

(B) ESMAJ

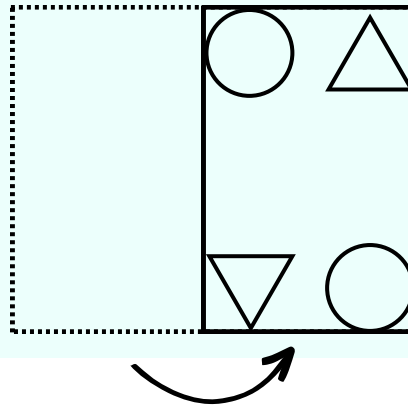
(C) SEMAJ

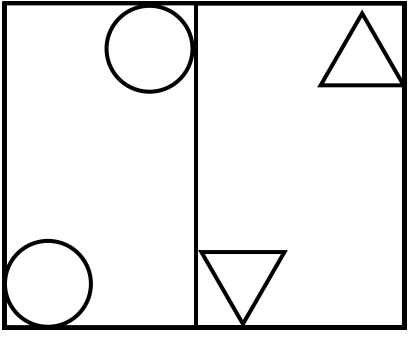
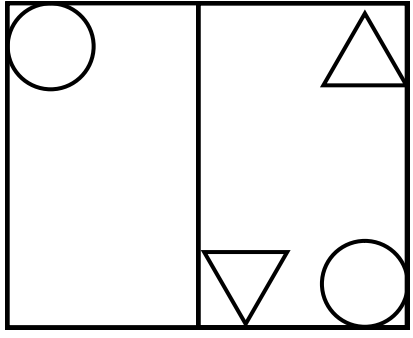
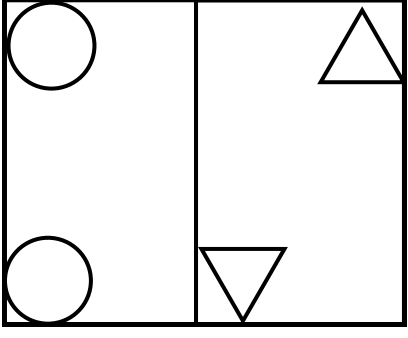
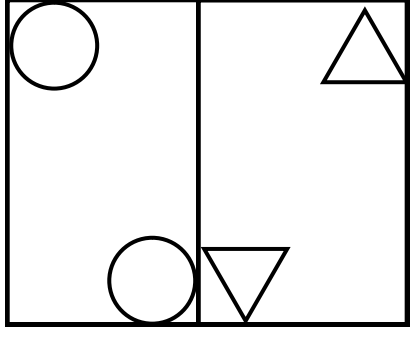
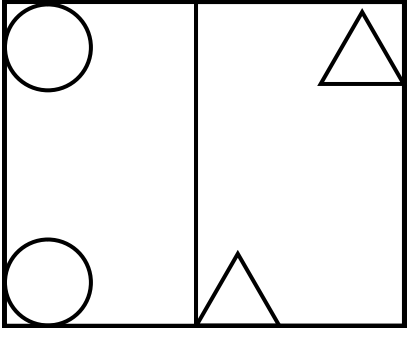
(D) MAJES

(E) None of these

SECTION A: 2 MARKS EACH

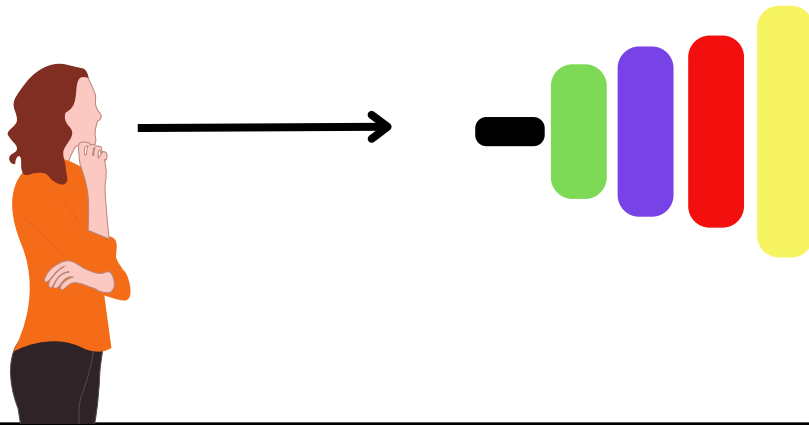
18. **Choose** a transparent sheet that will form the given image when folded as shown below.



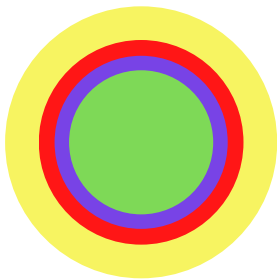
<p>(A)</p> 	<p>(B)</p> 
<p>(C)</p> 	<p>(D)</p> 
<p>(E)</p> 	

SECTION A: 2 MARKS EACH

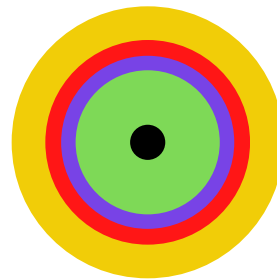
19. Clara sees a tower of colored hoops, as shown below. **Choose** the view that she sees.



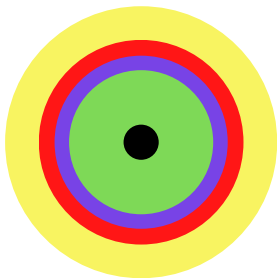
(A)



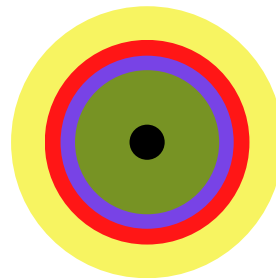
(B)



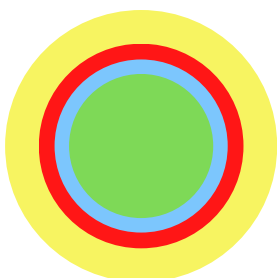
(C)



(D)



(E)



SECTION A: 2 MARKS EACH

20. If a tub of ice is put on the sun, what will happen?

Choose the correct effect from the options.

- | |
|-------------------------------------|
| (A) The tub of ice gets hotter. |
| (B) The sun gets colder. |
| (C) The tub of ice melts. |
| (D) The tub of ice will get colder. |
| (E) None of these |
-



ANSWER KEY

Preparatory Classes Available

Step-Wise Solution Available

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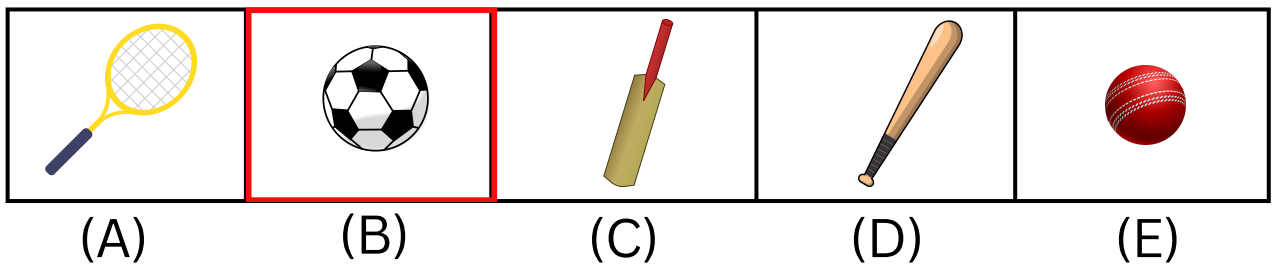
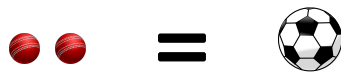
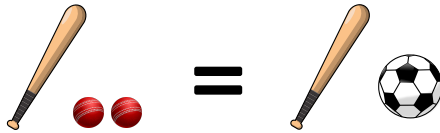
SECTION A: ANSWER KEY

1. (B)

Step 1:

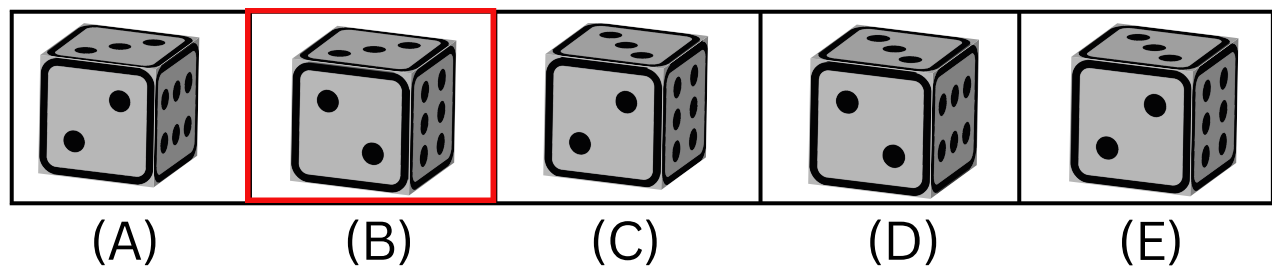
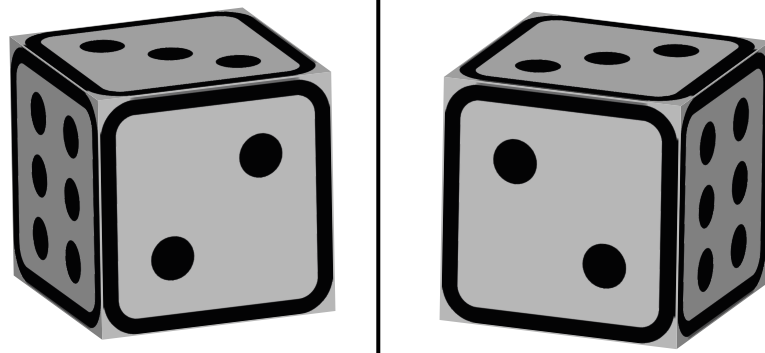


Step 2:



2. (B)

Step 1:



SECTION A: ANSWER KEY

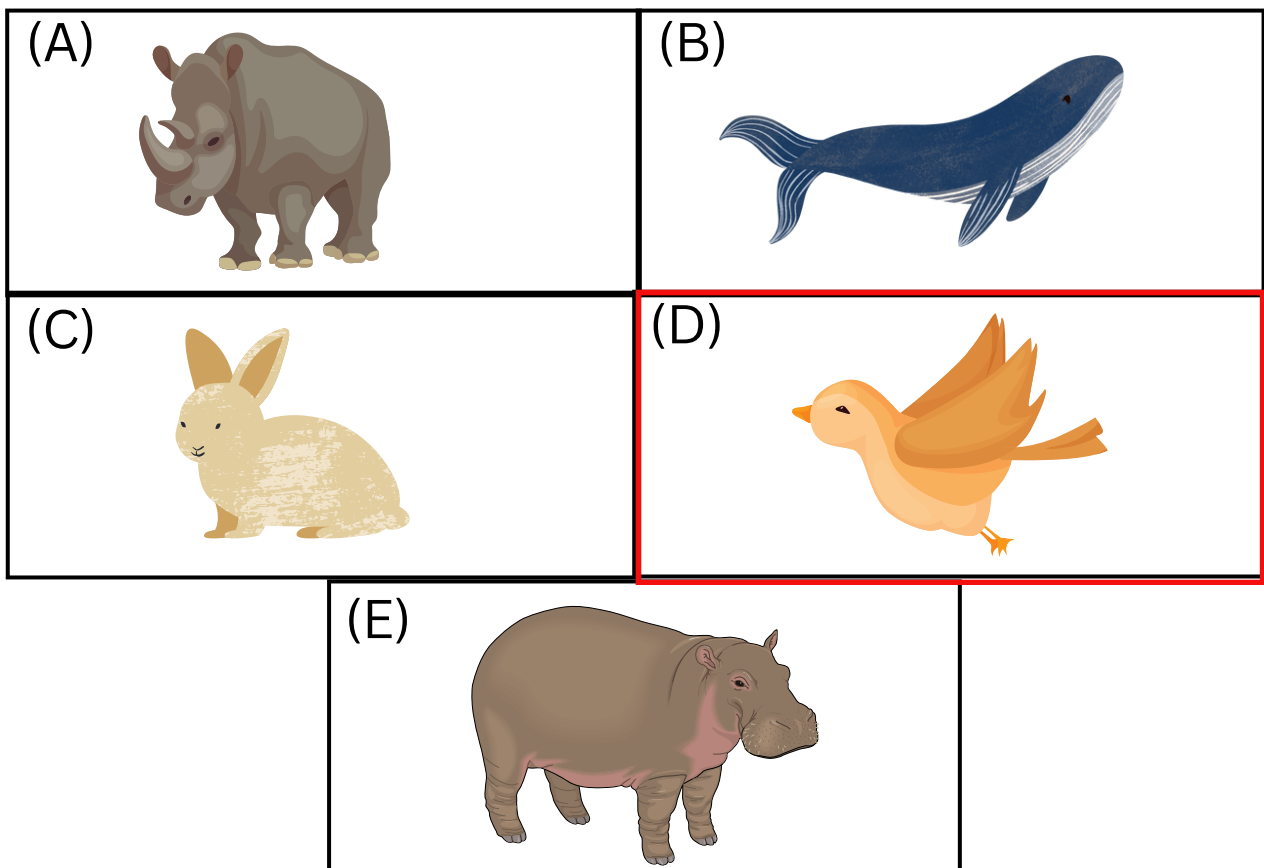
3. (D)

Step 1: Circle A contains animals that travel on the land.

Step 2: Circle B contains animals that travel in the water.

Step 3: The common area between Circle A and Circle B contains animals that can live on water and land.

Step 4: Bird will be the correct answer because it travels mainly through air.



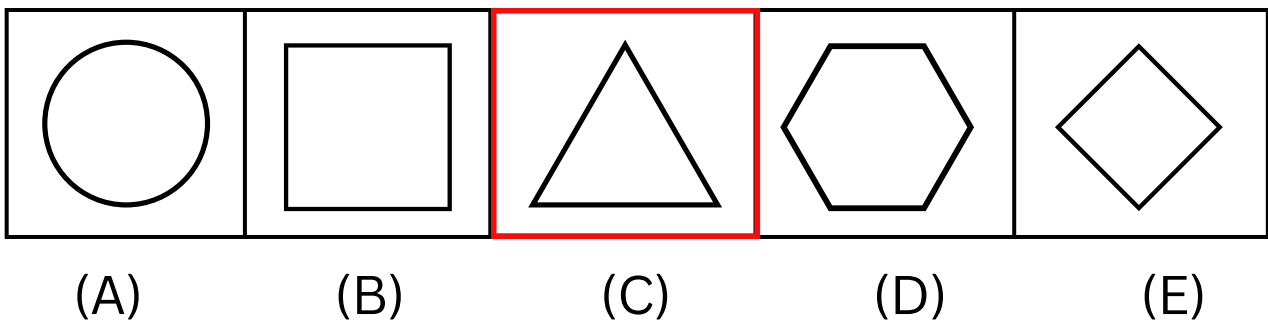
SECTION A: ANSWER KEY

4. (C)

Step 1: The number of sides decreases; odd numbers.

Step 2: 3 comes after 9, 7, and 5.

Step 3: Therefore, the triangle comes next

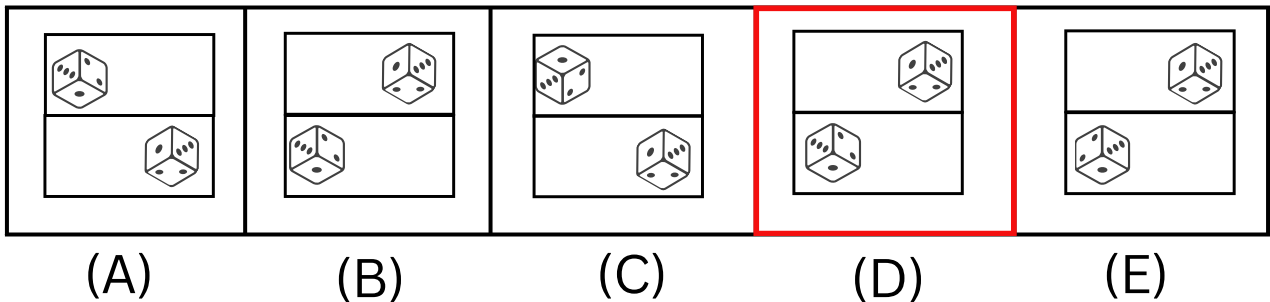
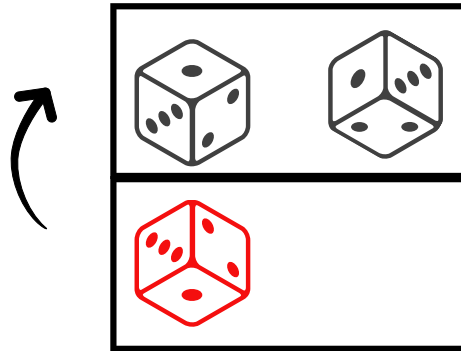


SECTION A: ANSWER KEY

5. (D)

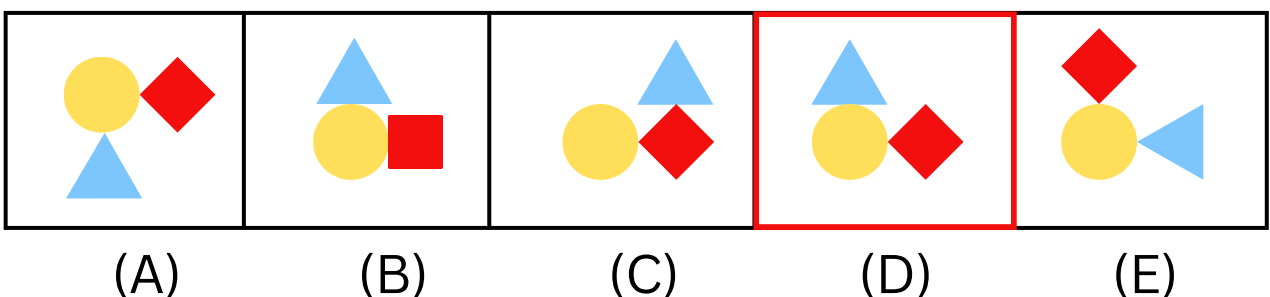
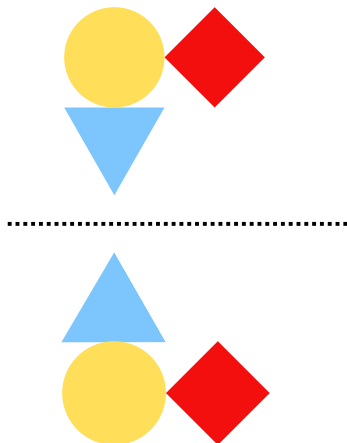
Step 1: The dice at the bottom flip vertically, and the dice at the top remain unchanged

Step 2:



6. (D)

Step 1:



SECTION A: ANSWER KEY

7. (A)

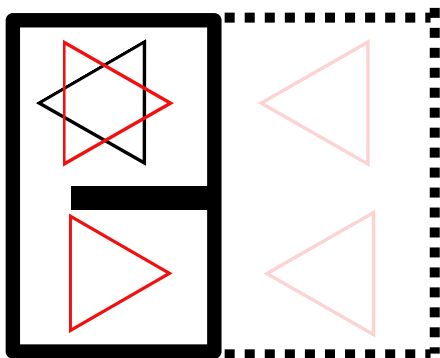
Step 1: Yellow + Yellow + 4 = 8. Yellow = 2.

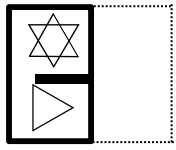
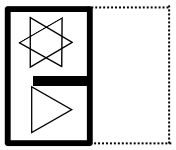
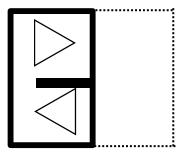
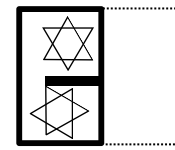
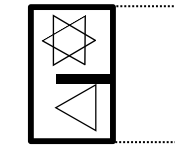
Step 2: 4 + 2 + Blue = 9. Blue = 3.

2,3	3,4	5,3	6,2	3,3
(A)	(B)	(C)	(D)	(E)

8. (B)

Step 1: The figures on the right are flipped and imposed on the left.



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

SECTION A: ANSWER KEY

9. (E)

Step 1: 30, 60, 75, and 15 are all multiples of 15.

Step 2: 45 is the only multiple of 15 in the given options.

35	40	50	55	45
(A)	(B)	(C)	(D)	(E)

10. (E)

Step 1:

$$7 \times 6 = 42$$

$$18 + 24 = 42$$

$$50 - 8 = 42$$

$$84 \div 2 = 42$$

$$13 \times 4 = 52$$

Step 2:

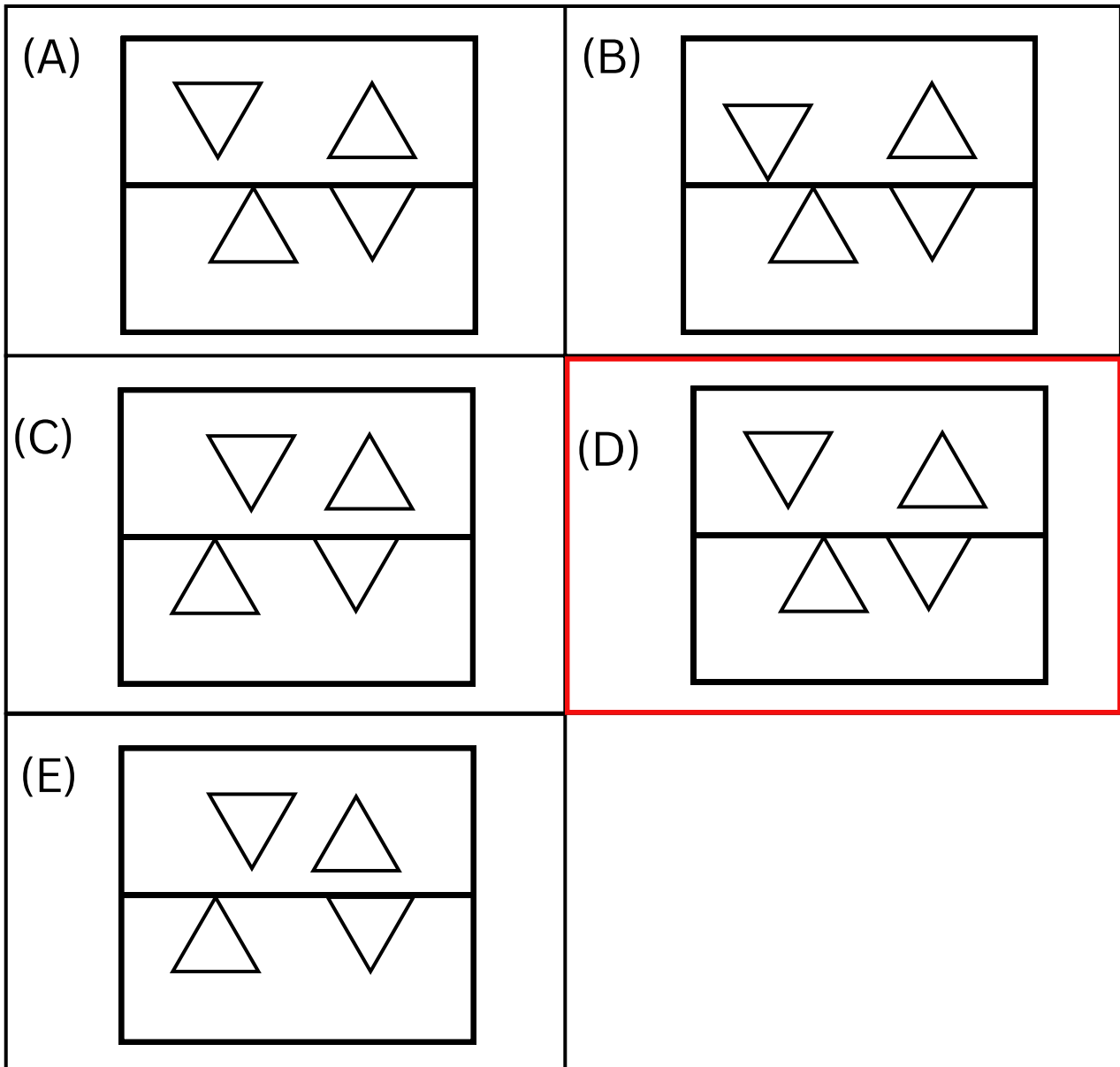
52 is the odd one out.

7×6	$18 + 24$	$50 - 8$	$84 \div 2$	13×4
(A)	(B)	(C)	(D)	(E)

SECTION A: ANSWER KEY

11. (D)

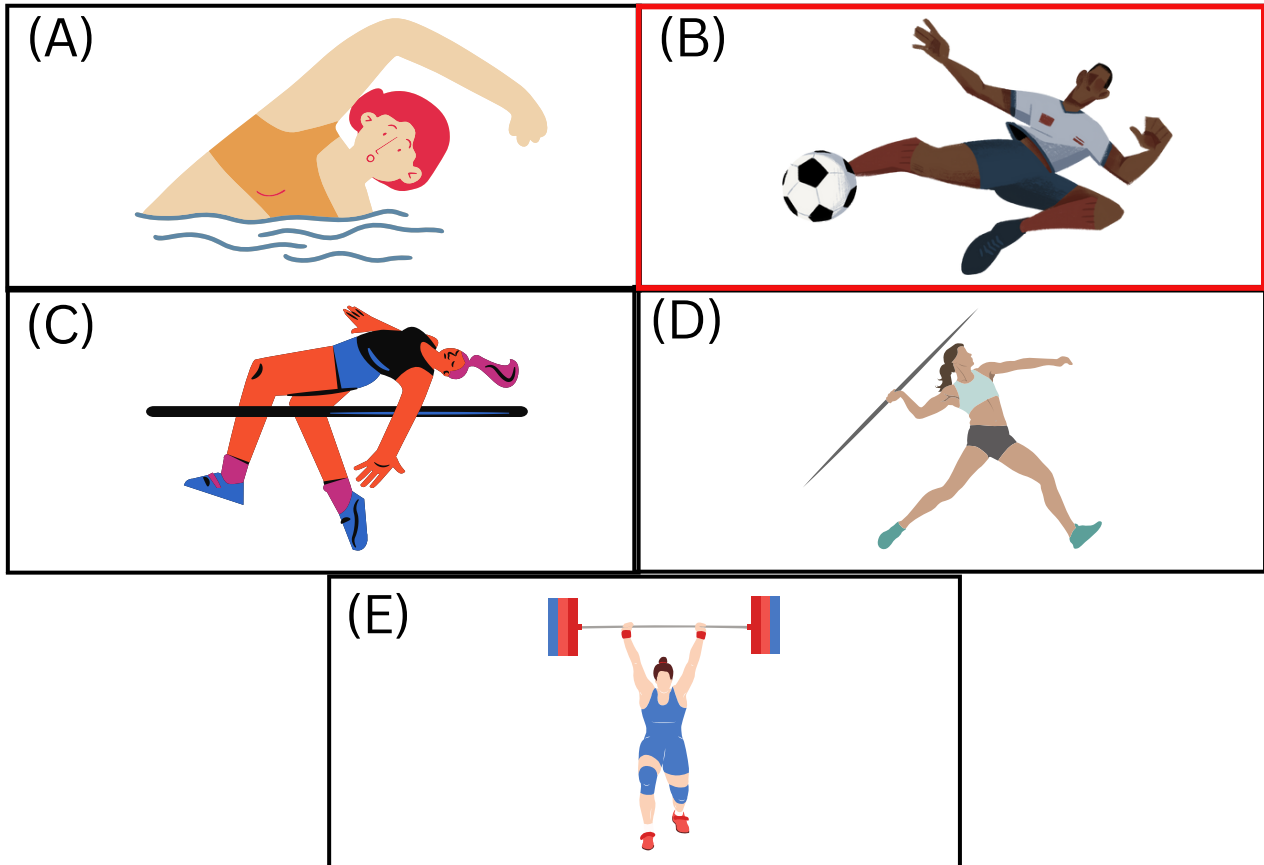
Step 1: The upper part of the question figure and the answer figure should match; we are left with two options, A and D. The answer is Option D.



SECTION A: ANSWER KEY

12. (B)

Step 1: Football is the only game that involves running and playing with a ball; Option B is the correct answer.



SECTION A: ANSWER KEY

13. (E)

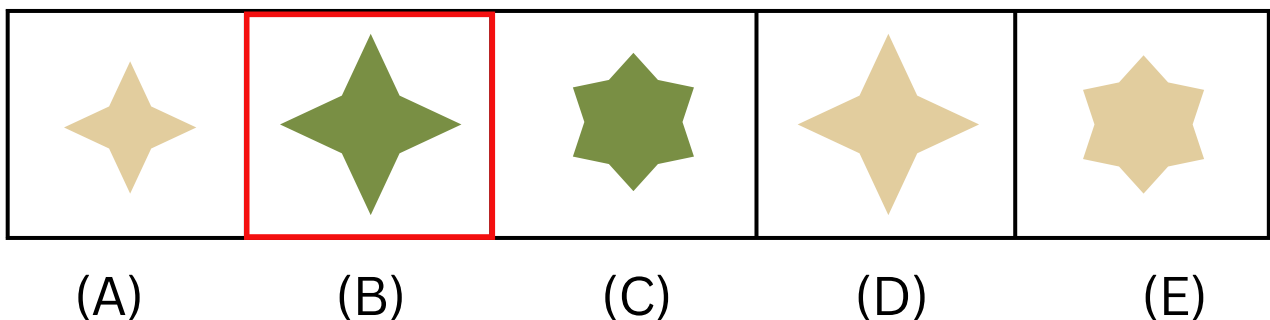
Step 1: There are three big rectangles, but there are two small rectangles when they overlap; In total, there are five rectangles.

(A) Square
(B) Circle
(C) Star
(D) Triangle
(E) Rectangle

14. (B)

Step 1: The number of points of the figures decreases by one in each step.

Step 2: The color of the figures alternate, and the size of the figures stays the same.



SECTION A: ANSWER KEY

15. (D)

Step 1: Each number gets added by 4 every time.

17	20	21	19	16
(A)	(B)	(C)	(D)	(E)

16. (B)

Step 1: The odd letter will be M, as it has one line of symmetry.

S	M	L	J	P
(A)	(B)	(C)	(D)	(E)

17. (C)

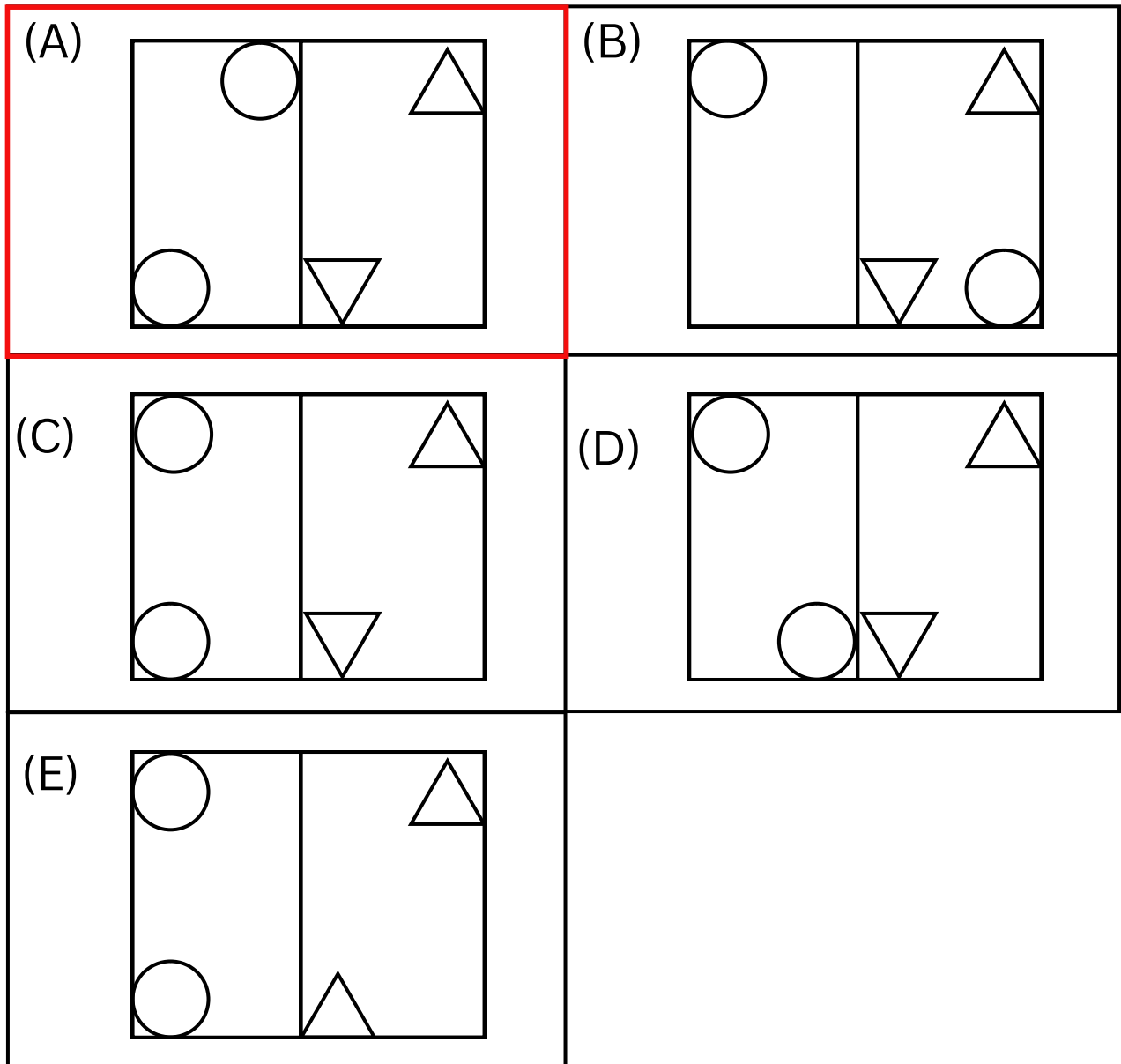
Step 1: The letters are written in reverse order; JAMES will be written as SEMAJ.

(A) JAMES
(B) ESMAJ
(C) SEMAJ
(D) MAJES
(E) None of these

SECTION A: ANSWER KEY

18. (A)

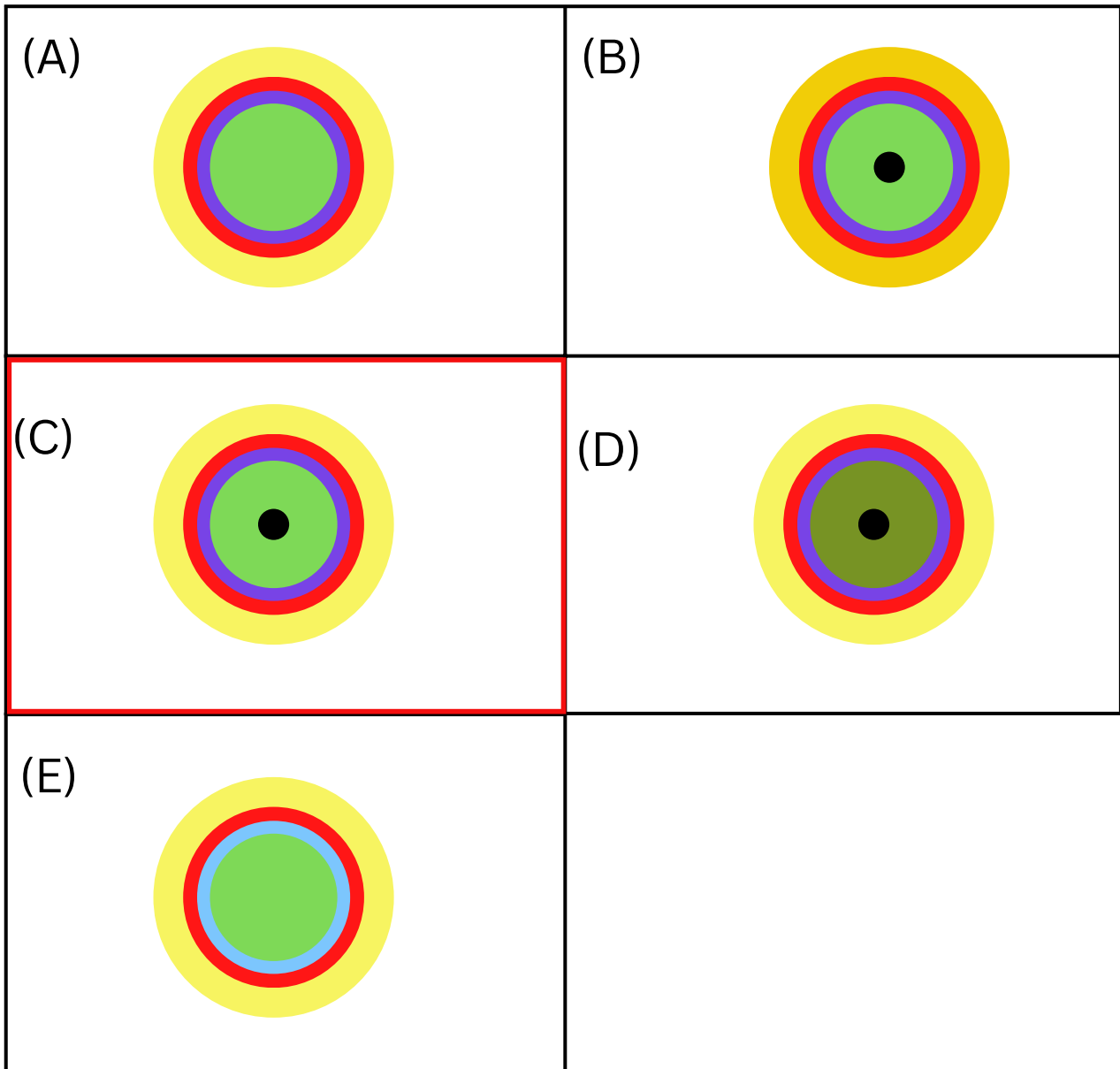
Step 1: The correct figure will be Option A.



SECTION A: ANSWER KEY

19. (C)

Step 1: There should be a black dot in the middle.



SECTION A: ANSWER KEY

20. (B)

Step 1: The tub of ice melts because the sun is very hot.

(A) The tub of ice gets hotter.
(B) The sun gets colder.
(C) The tub of ice melts.
(D) The tub of ice will get colder.
(E) None of these
