How to find the Correct answer for Reasoning ability related questions

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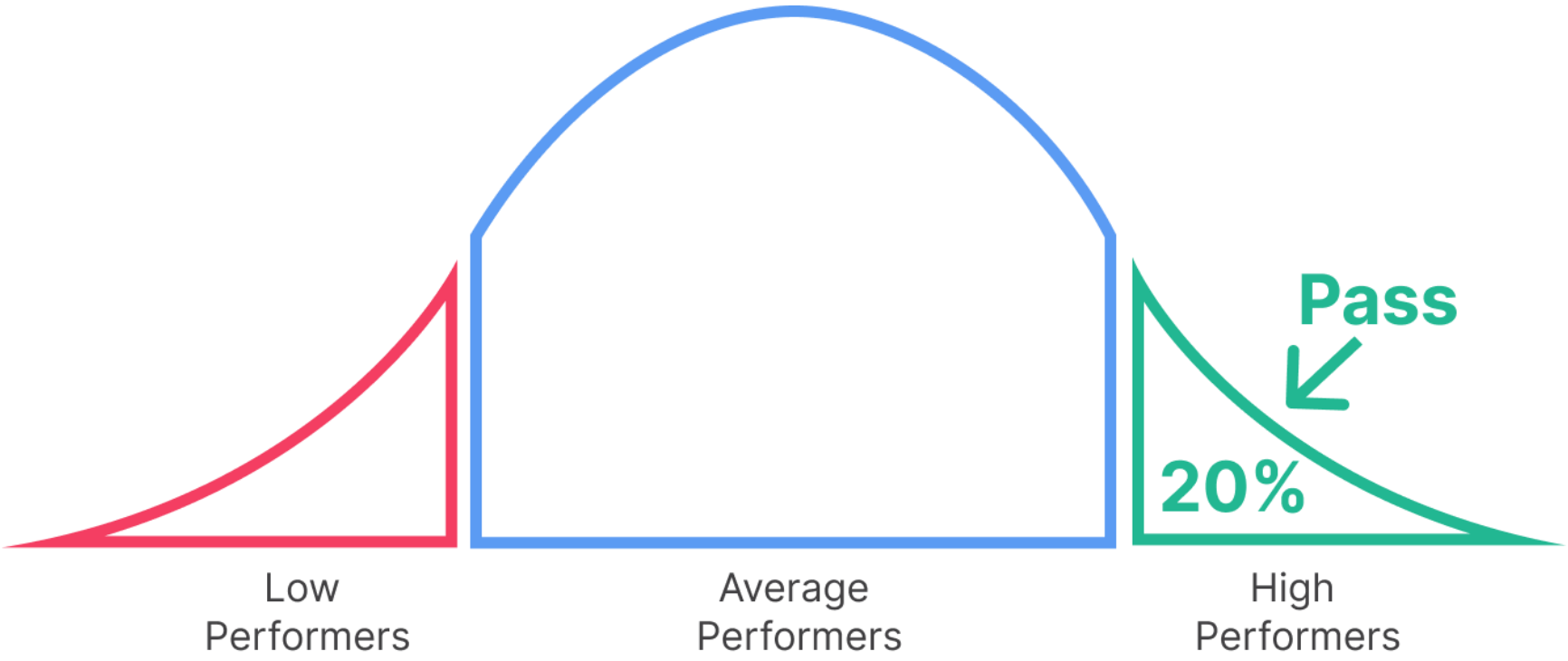
Purpose of Competitive exams



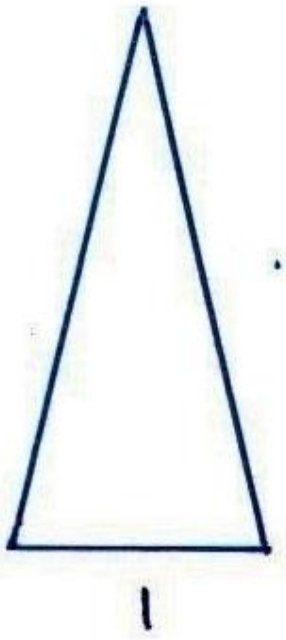
Verbal Reasoning

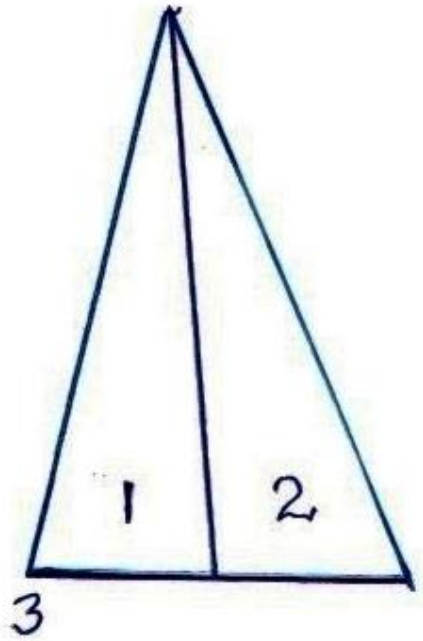
- **Coding - Decoding**
- **Blood Relations**
- **Direction Sense Test**
- **Analogy**
- **Classification**
- **Series Completion**
- **Alphabet Test**
- **Symbols and Notations**
- **Logical Sequence Of Words**
- **Statements and Arguments**
- **Situation Reaction Test**
- **Verification of Truth of the Statement**
- **Statements and Conclusions**
- **Evaluating Course of Action**
- **Decision Making**
- **Assertion and Reason**
- **Number Analogies**
- **Critical Reasoning**
- **Sequential Output Training**
- **Statements and Assumptions**
- **Inferences**
- **Cause and Effect**

Non-Verbal Reasoning

- **Analogy**
- **Series**
- **Analytical Reasoning**
- **Classification**
- **Mirror Images**
- **Embedded Images**
- **Pattern Completion**
- **Paper Folding**
- **Paper Cutting**
- **Rule Detection**
- **Dot Situation**
- **Image Analysis**
- **Cubes and Dice**
- **Figure Matrix**
- **Water Images**

Triangles

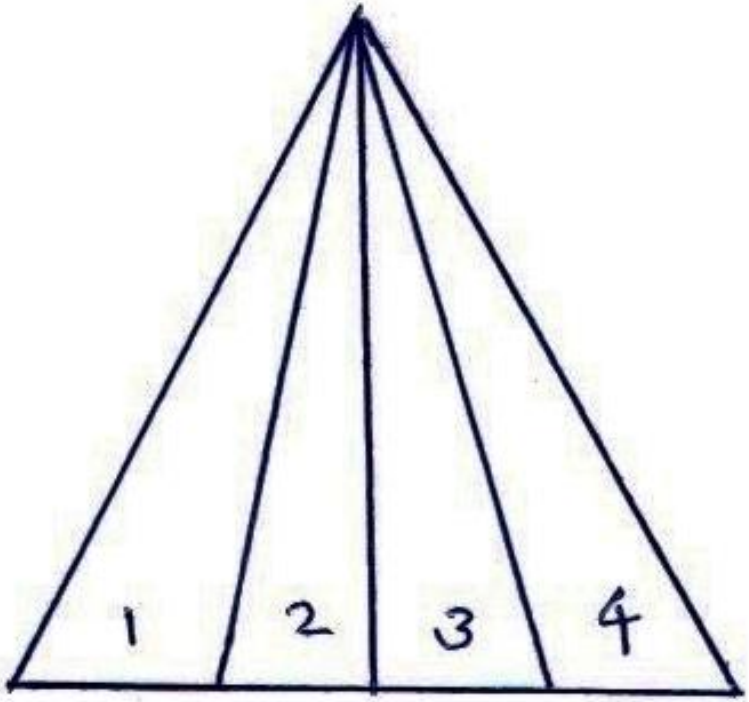




$1 + 2 = 3$

$\frac{2 \times 3}{2} = \frac{6}{2} = 3$

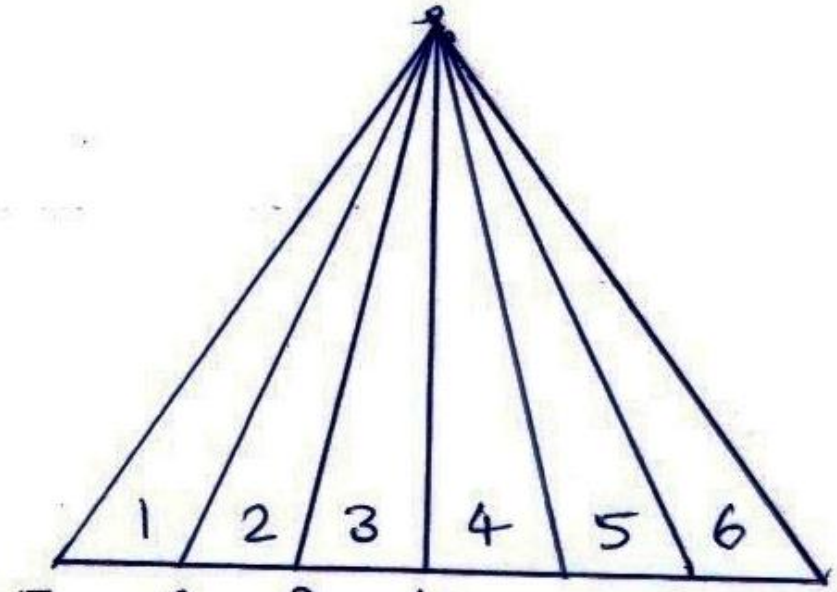
$\frac{n(n+1)}{2}$ FORMULA METHOD



$1+2+3+4=10$

OR $\frac{4\times5}{2}=\frac{20}{2}=10$

$\frac{n(n+1)}{2}$ **FORMULA METHOD**

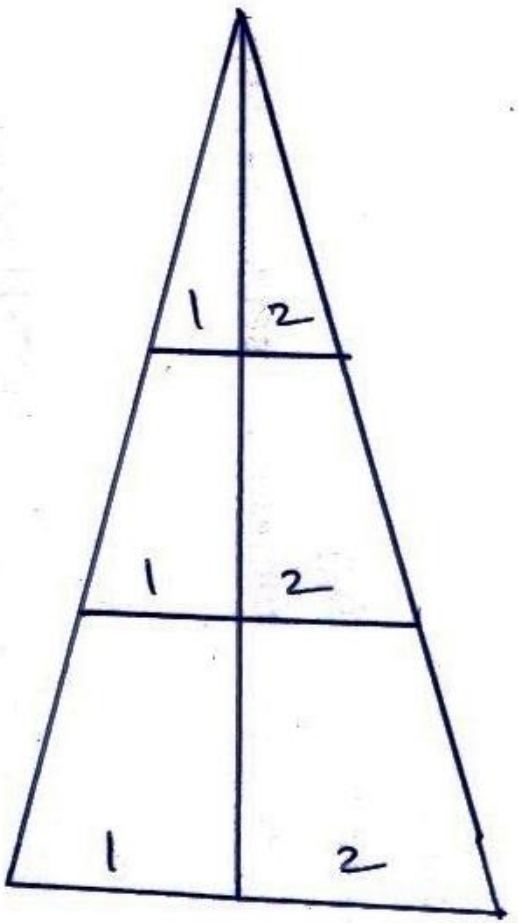


$1+2+3+4+5+6=21$

$\frac{6\times7}{2}=\frac{42}{2}=21$

FORMULA

$$\frac{n(n+1)}{2}$$



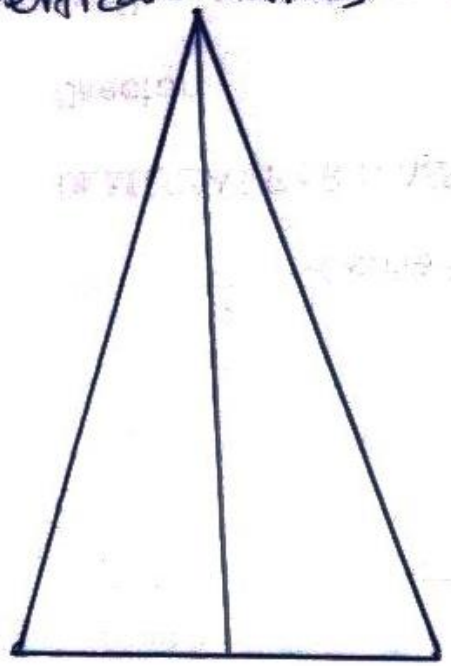
$2+1=3$

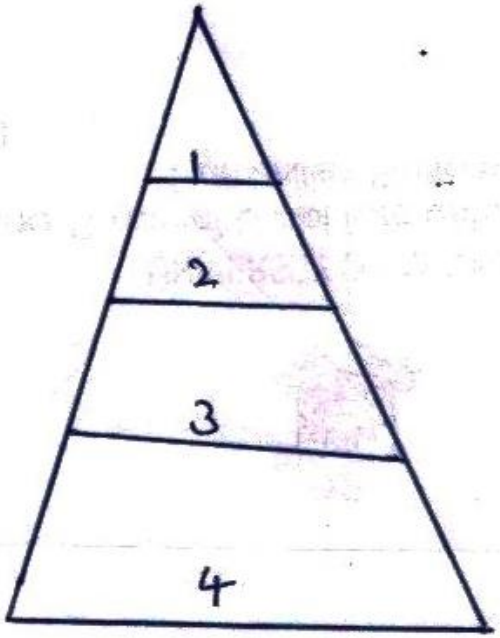
$2+1=3$

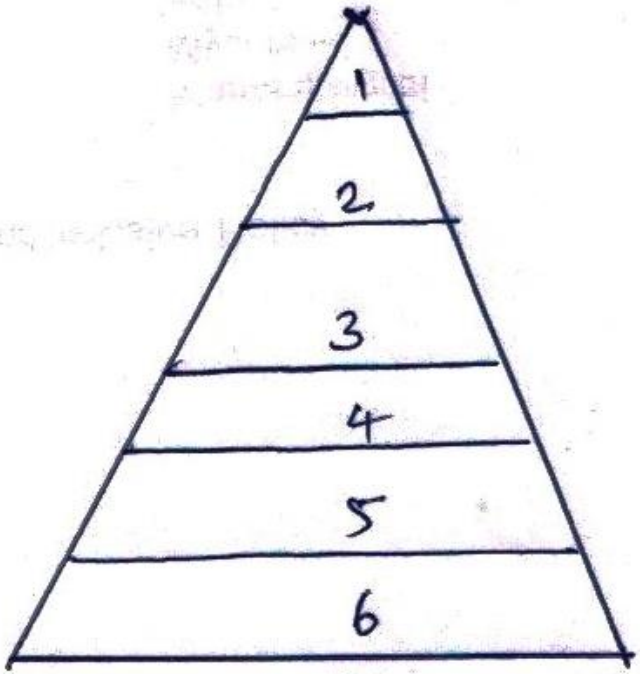
$2+1=3$

9

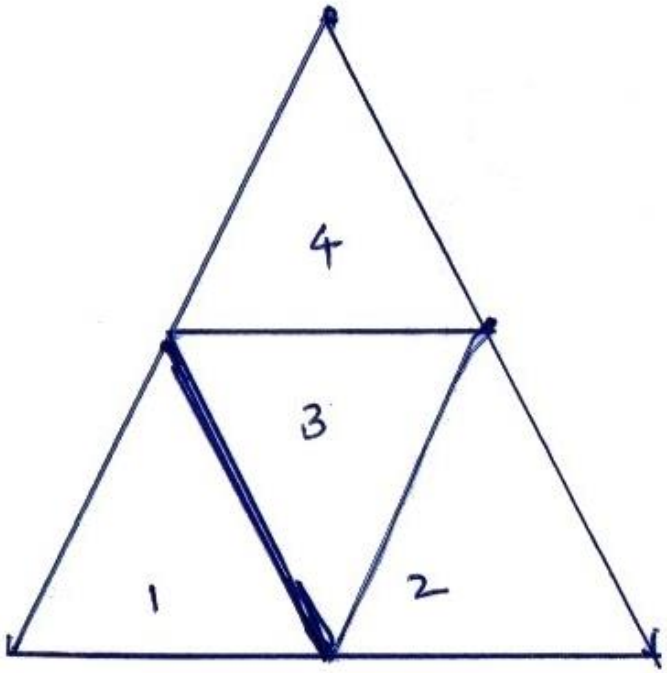
Vertical lines



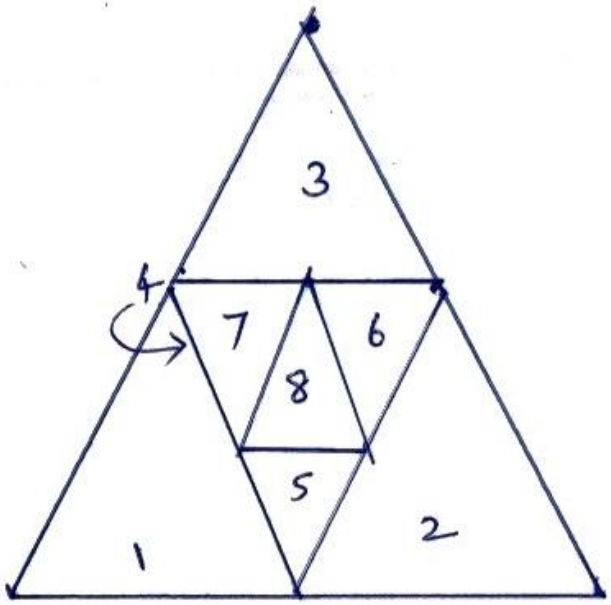




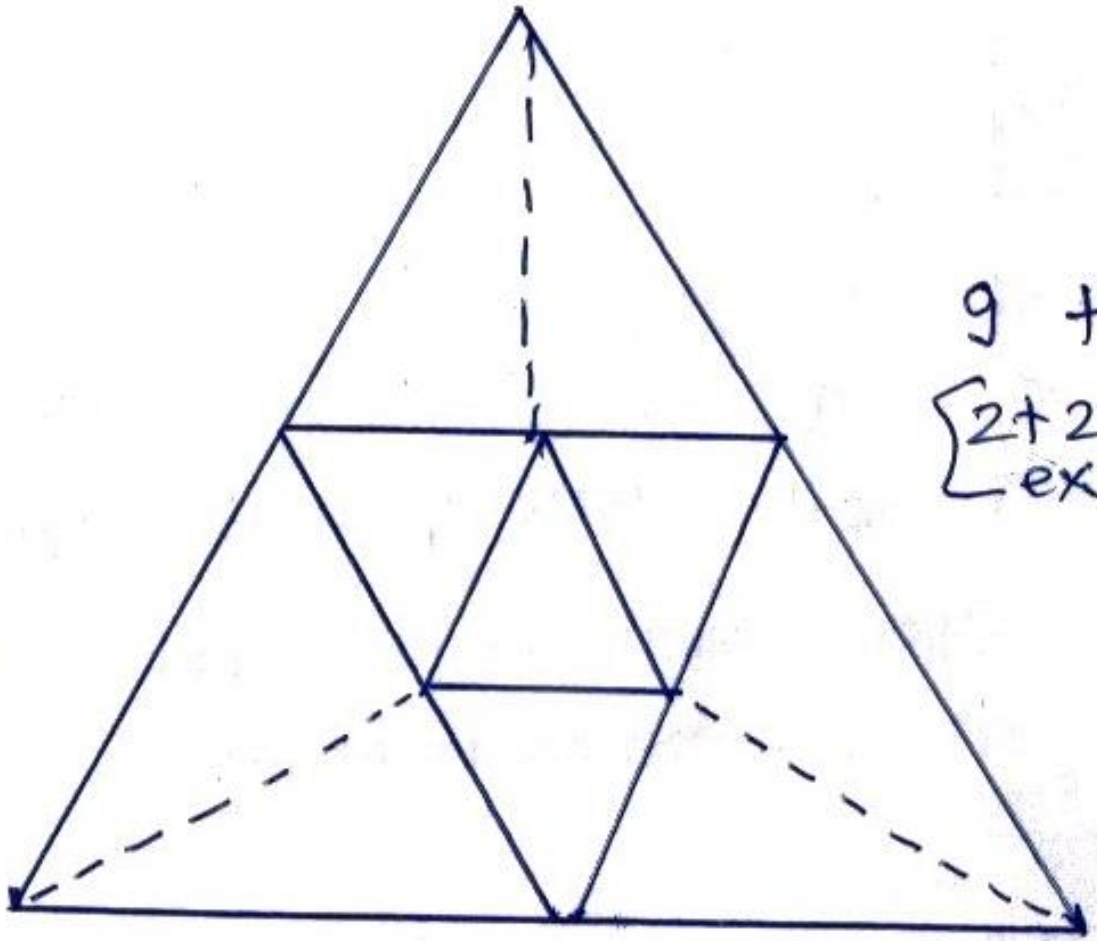
Count. Horizontal lines (4) (6)



4 + 1 = 5

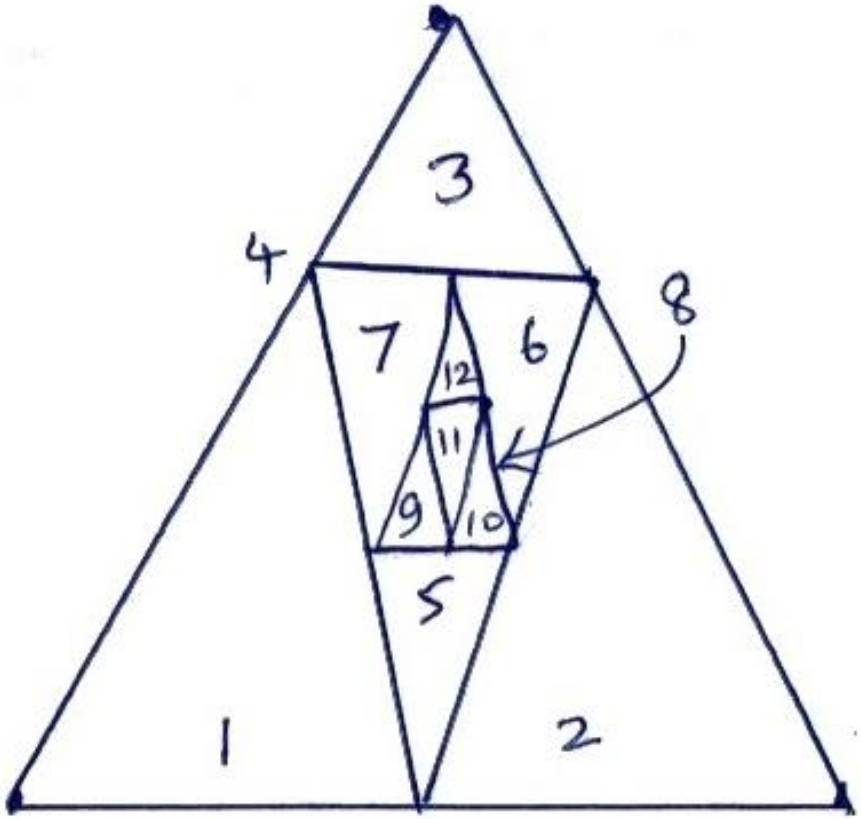


8 + 1 = 9



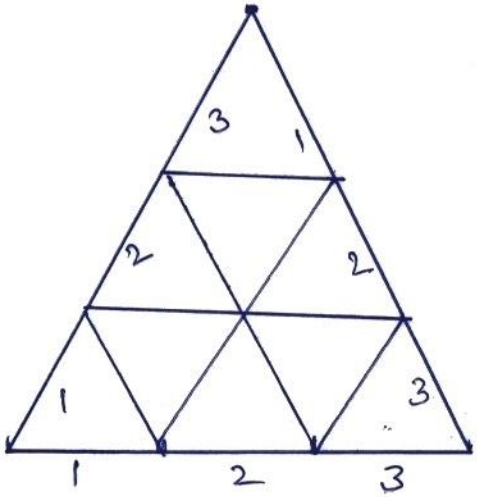
$9 + 6 = (15)$

$[2+2+2$
extra



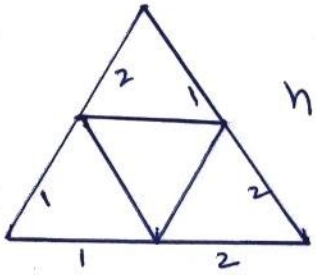
$4+4+4+1=13$

(OR) $12+1=13$

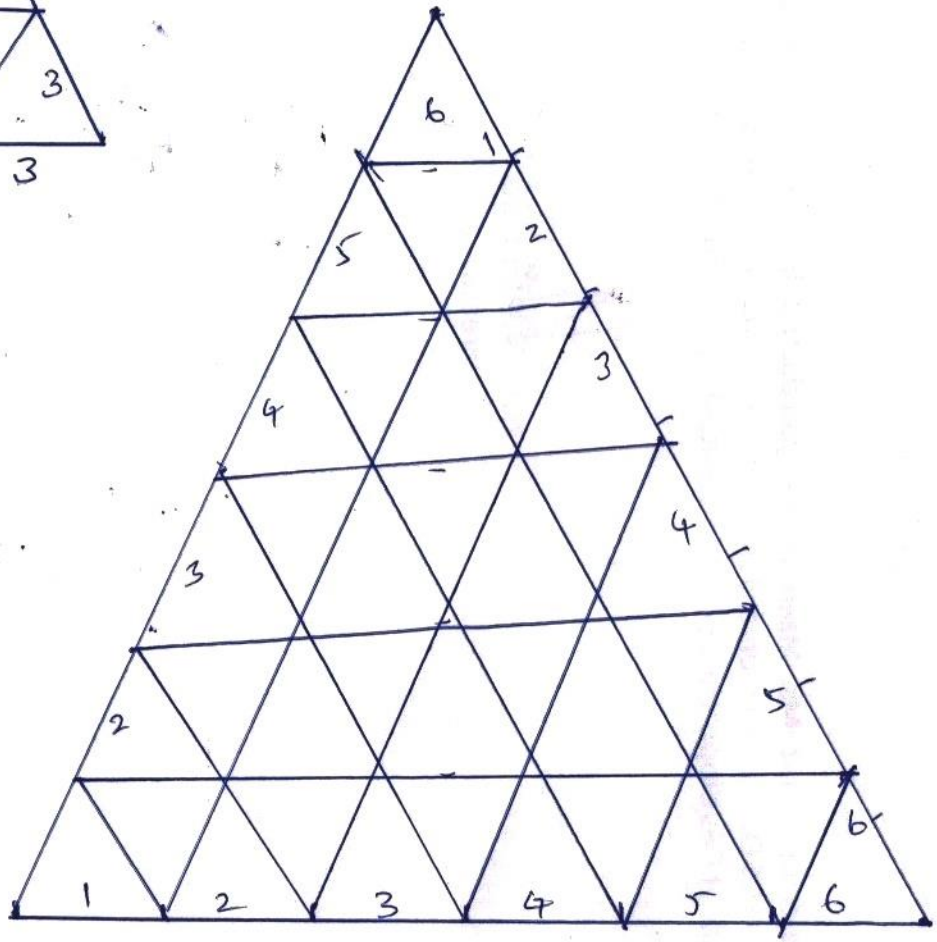


$n = 3$

Table value = 13



$n = 2$ Table Value = (5)

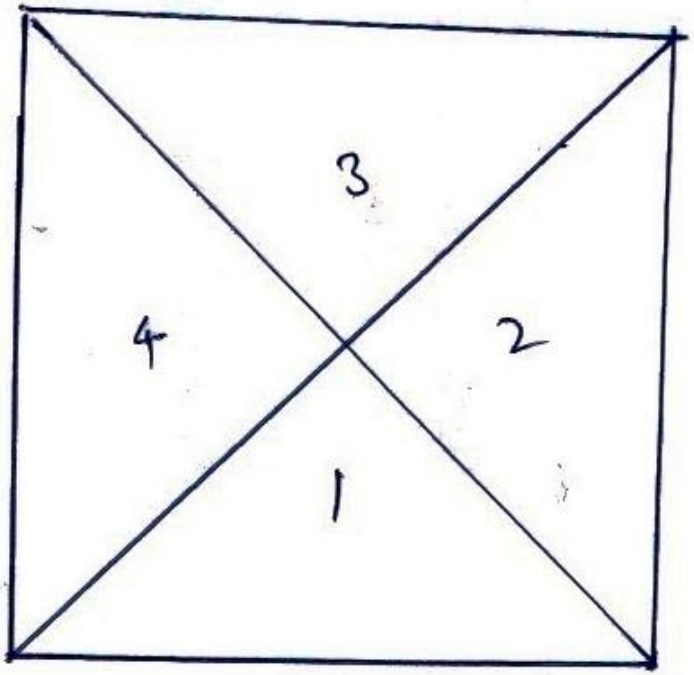


$n = 6$ Table value = 78

No.	△
1	1
2	5
3	13
4	27
5	48
6	78
7	118
8	170

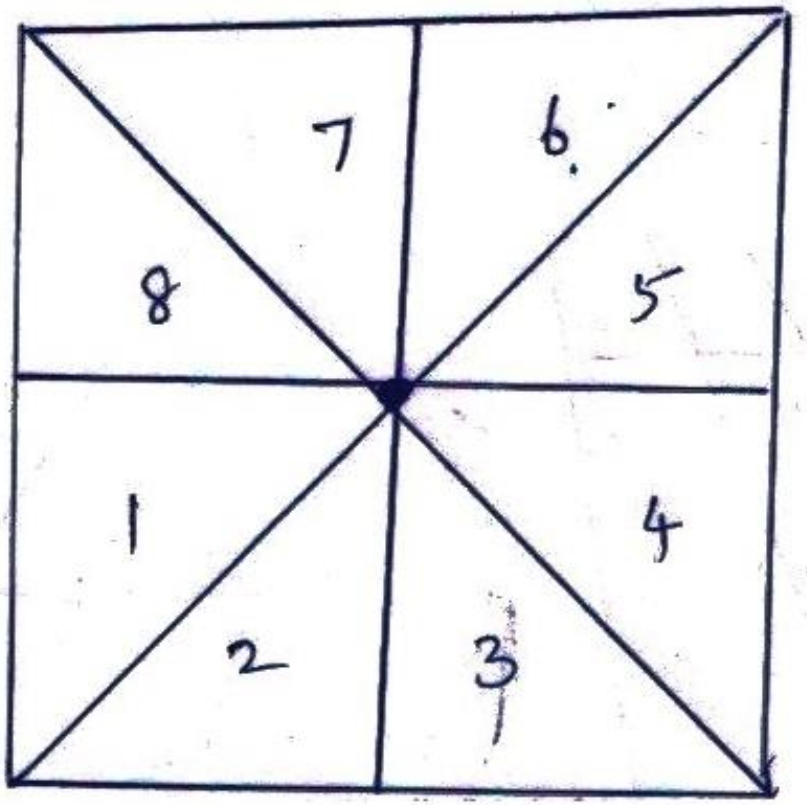
TABLE VAL

MULTIPLY by 2 Method



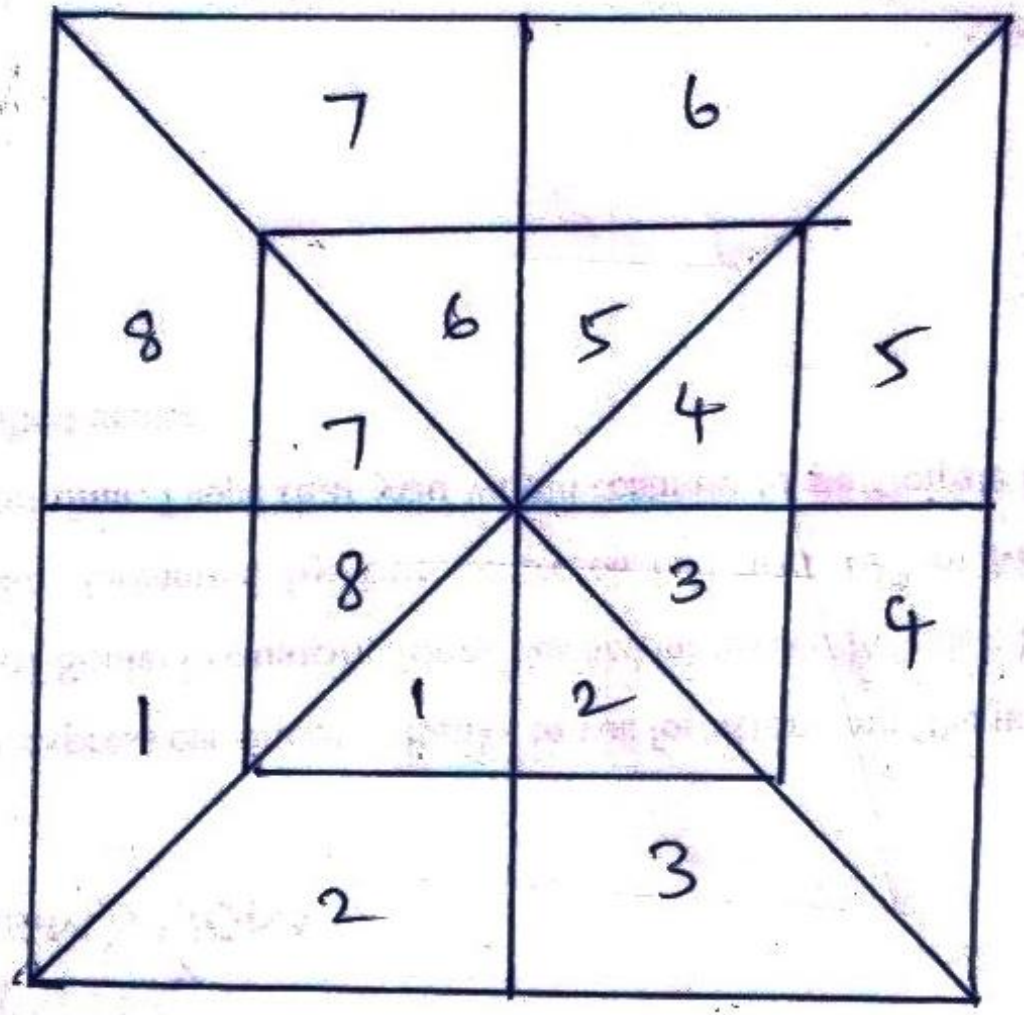
$4 \times 2 = (8)$

multiply by 2



$8 \times 2 = 16$

multiply by 2.

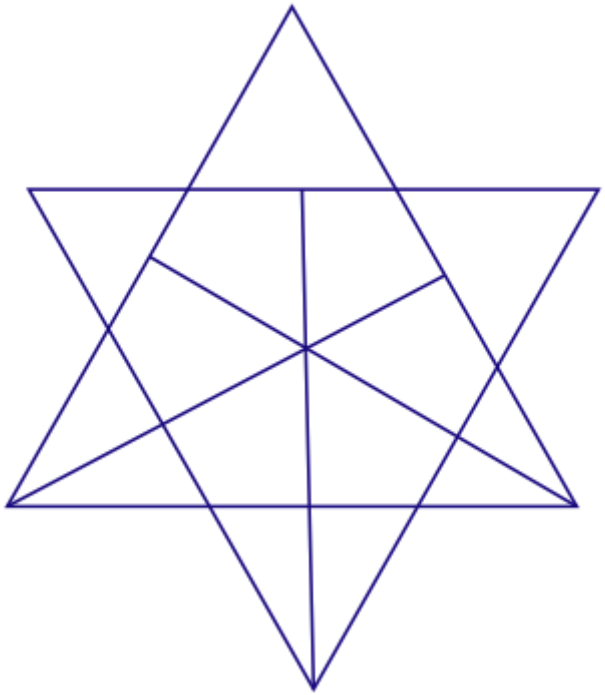


$8 \times 2 = 16$

$8 \times 2 = 16$

32

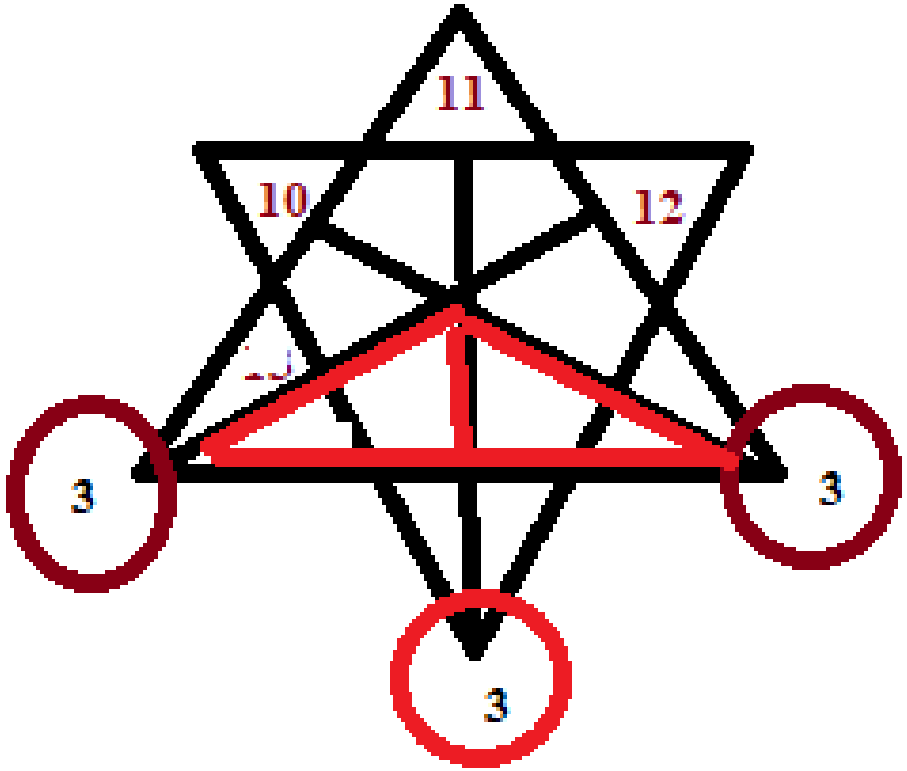
In the following question number of triangle are



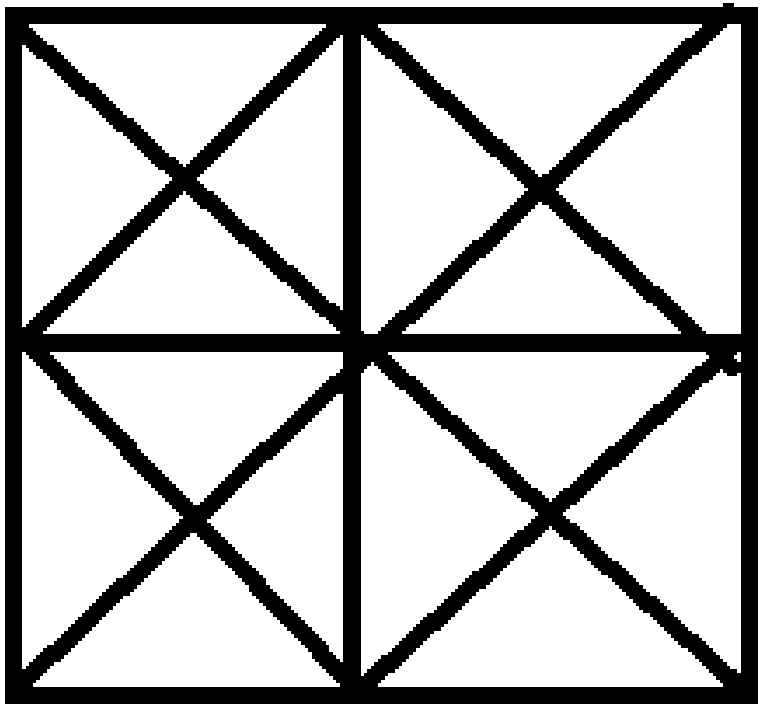
- (A) 21
- (B) 23
- (C) 25
- (D) 27

Correct Answer : D ie. 27

Explanation :The main triangle shown is in the given figure and this the total no. of triangle is 15. remaing triangle we can find out in the drawing the triangle in the image.

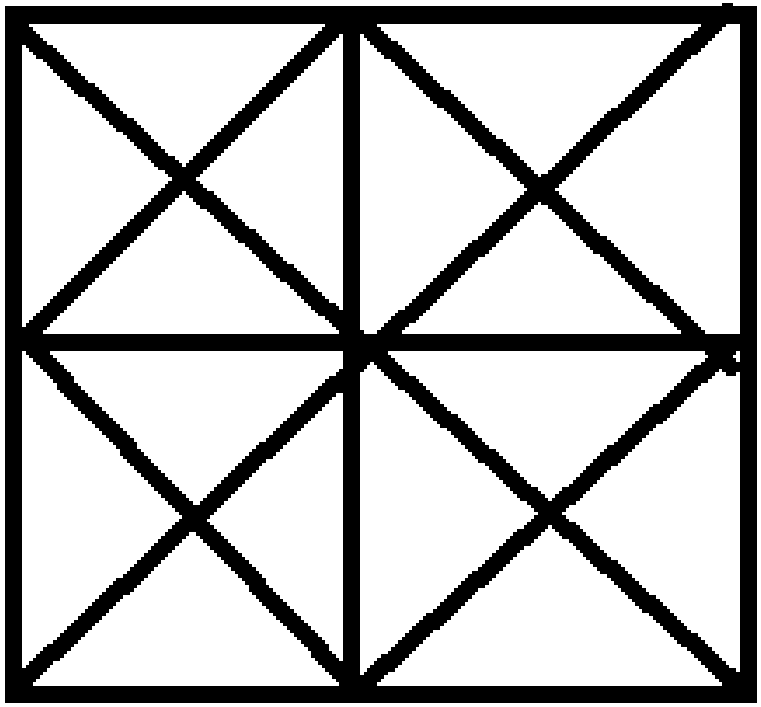


In the following questions, count the number of triangles and squares in the given figure.



- (A) 44 triangles,10 squares
- (B) 14 triangles, 16 squares
- (C) 27 triangles,6 squares
- (D) 36 triangles, 9 squares

- Correct Answer : A
- (A) 44 triangles,10 squares



Deductive Reasoning vs. Inductive Reasoning

- People often confuse inductive and abductive reasoning with deductive reasoning. These three types of reasoning all fall under the umbrella of logical reasoning.
- Deduction: a rule or general principle leads to a specific conclusion.
- Induction: a specific example, or a set of repetitive occurrences, lead to a rule or a general principle.
- Abductive reasoning, on the other hand, is similar to inductive reasoning in the sense that conclusions are based on probabilities. In abductive reasoning, it is presumed that the most plausible conclusion is the correct one.

Syllogisms

- one of the most popular and common forms of deductive reasoning tests.
- A syllogism is a certain form of argument that consists of a major premise, a minor premise, and a logical conclusion. Using syllogisms is considered a good way to ensure validity when assessing deductive reasoning.
- **Syllogism Example Question:**
- Major premise: All plants are photosynthetic.
- Minor premise: Algae are plants.
- Conclusion: Algae are photosynthetic.


Photosynthetic
Plants
Algae

There are six known rules of syllogism

- **Rule One**: There must be three terms: the major premise, the minor premise, and the conclusion - no more, no less.
- **Rule Two**: The minor premise must be distributed in at least one other premise.
- **Rule Three**: Any terms distributed in the conclusion must be distributed in the relevant premise.
- **Rule Four**: Do not use two negative premises.
- **Rule Five:** If one of the two premises are negative, the conclusion must be negative.
- **Rule Six**: From two universal premises, no conclusion may be drawn.

Categorical Syllogism

- Let's look at some more examples of syllogism.
- All cars have wheels.
- I drive a car.
- Therefore, my car has wheels.
  - **Major Premise**: All cars have wheels.
  - **Minor Premise**: I drive a car.
  - **Conclusion**: My car has wheels.

Examples of syllogism

- All insects frighten me.
- That is an insect.
- Therefore, I am frightened.
  - **Major Premise**: All insects frighten me.
  - **Minor Premise**: That is an insect.
  - **Conclusion**: I am frightened.

Examples of syllogism

- All crows are black. The bird in my cage is black. Therefore, this bird is a crow.
  - **Major Premise**: All crows are black.
  - **Minor Premise**: The bird in my cage is black.
  - **Conclusion**: This bird is a crow.

For instance, the syllogism —

Only Greeks are brave,
All Spartans are Greeks,
Therefore all Spartans are brave,

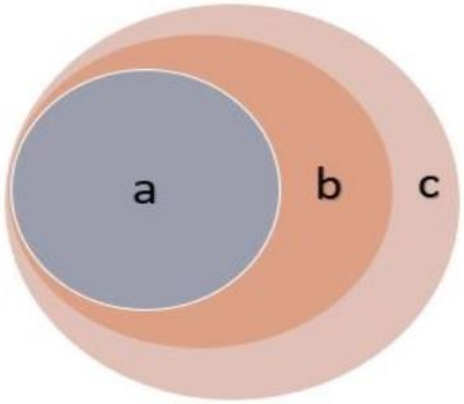
is equivalent to the inconsistency —

Non-Greeks are-not brave,
Spartans are-not non-Greeks,
Some Spartans are not-brave,

which fails to stand the test of validity in two respects,— the term brave appears with unlike signs and the term Greeks with like signs.

Reasoning: SYLLOGISMS CONCEPTS

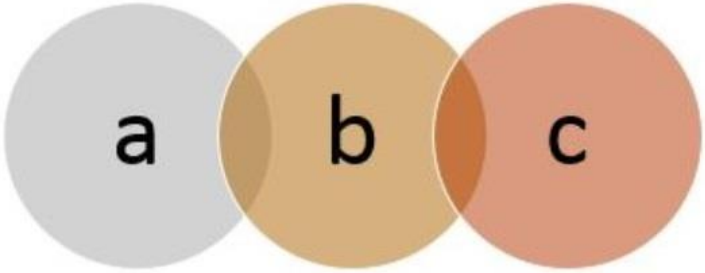
[A] ALL



1. **Statements (Premises):** **(I)** All A's are B
   (II) All B's are C

2. **Conclusion:** **(I)** Some B's are A [✓]
   (II) All A's are C [✓]

[B] SOME

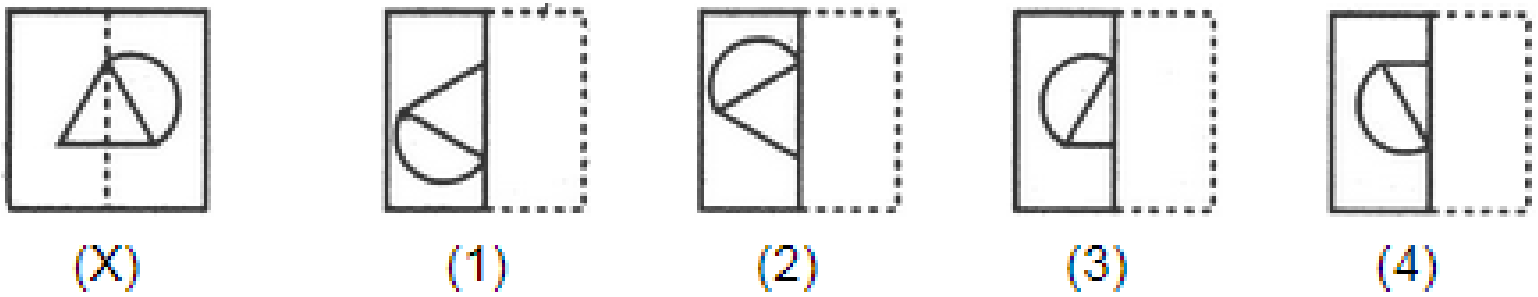


1. **Statements (Premises):** **(I)** Some A's are B
   (II) Some B's are C

2. **Conclusion:** **(I)** Some B's are A [✓]
   (II) Some C's are B [✓]
   (III) Some A's are C [X]

Paper Folding Reasoning Questions

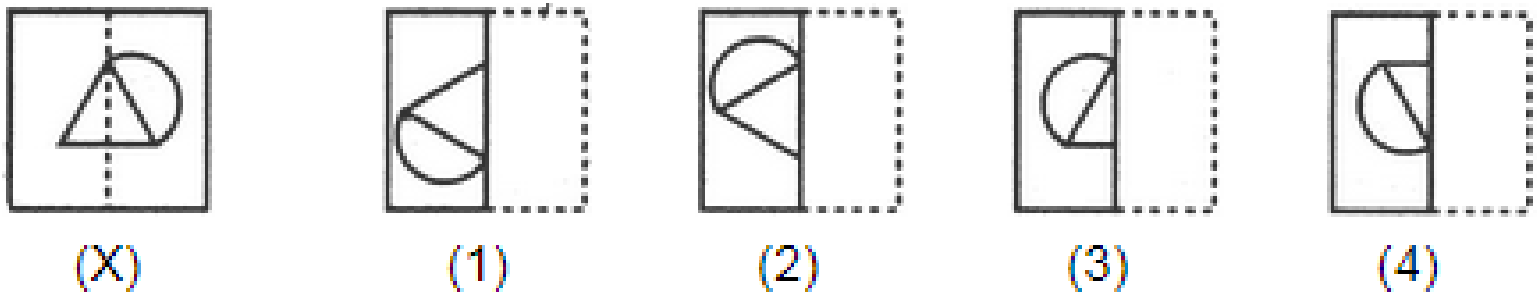
- Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



Check answer

Answer

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



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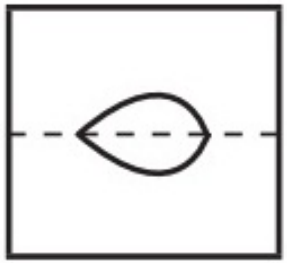
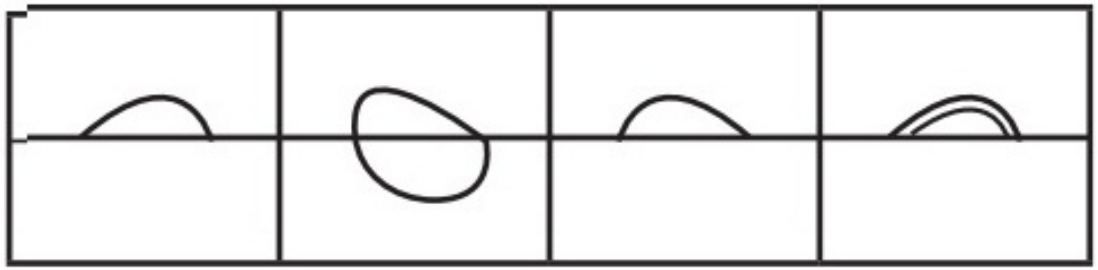
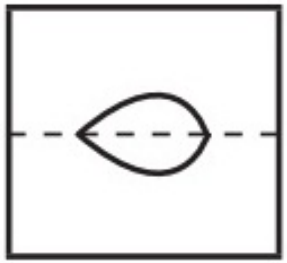


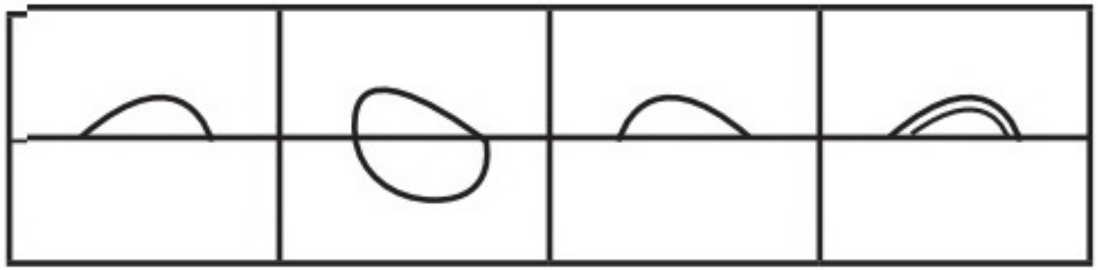


A. a
B. b
C. c
D. d

Check answer

- Find out from the four alternatives as of how the pattern would appear when the transparent sheet is folded at the dotted line.





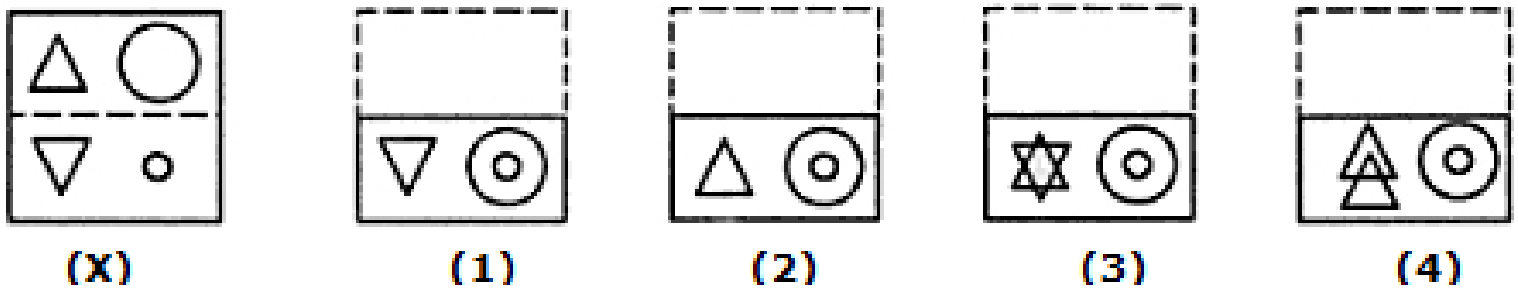
A. a

B. b

C. c

D. d

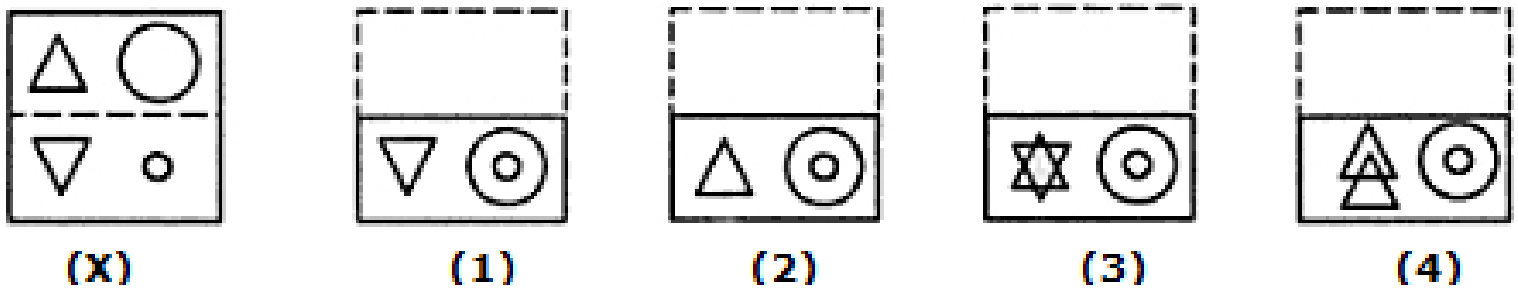
Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



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

Check answer

Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



A. 1

B. 3

C. 2

D. 4

Seating A/sitting rrangements

- Another popular form of deductive reasoning question is seating arrangements.
- This type of question requires you to arrange certain items or persons according to a set of given rules regarding their placements.

Sitting Arrangement

- Eleven friends M, N, O, P, Q, R, S, T, U, V and W are sitting in the first row of the stadium watching a cricket match.
- T is to the immediate left of P and third to the right of U.
- V is the immediate neighbour of M and N and third to the left of S.
- M is the second to the right of Q, who is at one of the ends.
- R is sitting next to the right of P and P is second to the right of O.

Q W M V N U S O T P R

Q.1. Who is sitting in the center of the row?

1. N
2. O
3. S
4. U

Q W M V N U S O T P R

Check answer

Q.1. Who is sitting in the center of the row?

1. N
2. O
3. S
4. U

Sol : Option 4

The arrangement of the persons is

Q W M V N U S O T P R

U is sitting in the center of the row.

Seating Arrangement Example Question:

- Dan, Sam, and Peter are standing in line.
- Dan is not behind Peter.
- Sam is last in line.
- Who is standing first in line?
- Answer: Dan.
- According to the above set of rules, there is only one logical way to arrange Dan, Sam, and Peter in line—Dan is 1st, Peter is 2nd, and Sam is 3rd.

Sitting arrangement related Q=1

- A total of 10 people, 5 men and 5 women are sitting in two parallel lines, facing each other. Five men, namely, Ajit, Bharat, Chirag, Dharam and Ejaz are facing to the south and the five women, Meenal, Neelu, Octavia, Preeti and Arpita are facing towards the north.
- Bharat, who is just next to the left of Dharam, is opposite to Arpita.
- Chirag and Neelu are diagonally opposite to each other.
- Ejaz is opposite Octavia who is just next to Meenal.
- Preeti, who is just to the left of Arpita, is opposite to Dharam.
- Meenal is at one end of the line

Seating Arrangement Example Question-1:

- Who is sitting right in front of Dharam?
- Neelu
- Meenal
- Octavia
- Preeti
- Arpita

Matrigma Test

- The Matrigma test is a cognitive ability test that measures your general mental ability. It is an unconditional test and uses a question type you probably never encountered before.
- **Based on logic and pattern recognition,** you'll need to select the missing tile from a 3*3 matrice.
- **Due to the stressful time limits and the very similar answers** - it's easy to get lost and fail.

What is the Matrigma Test?

- Matrigma is a non-verbal problem-solving test that assesses your capability to discern patterns or find internal logic from sets of shapes.
- It is an Abstract Reasoning test with a single type of question presented in 3x3 matrices in which you're asked to find the missing tile.

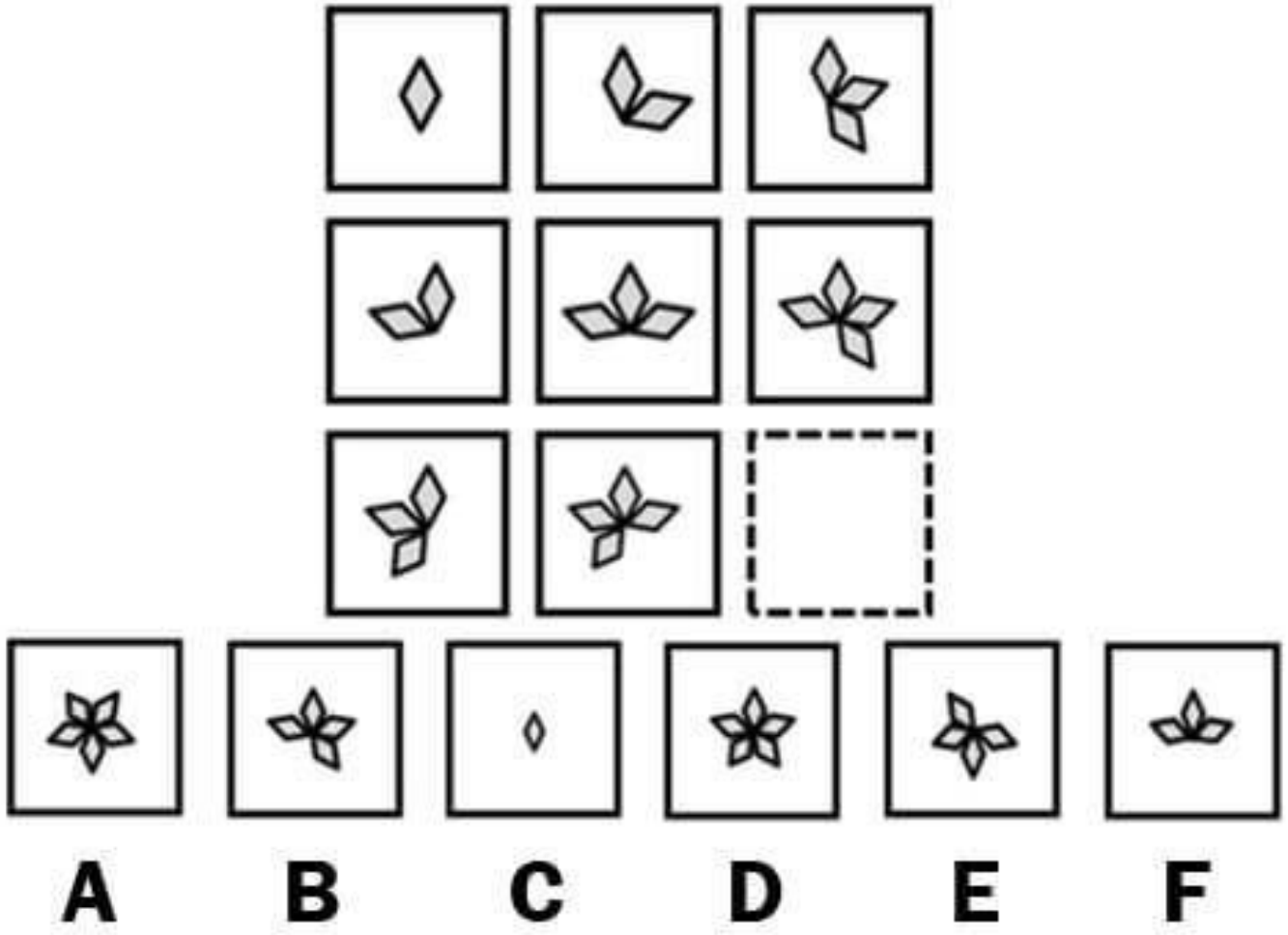
There are 2 versions of the Matrigma test:

- **1) Classic Matrigma:** The difficulty of the questions increases as you continue to progress throughout the duration of the test.
- **2) Adaptive Matrigma:** For each question that you answer correctly, the next question will be even more difficult than the one before. Similarly, if you answer any of the questions incorrectly, the next question will decrease in difficulty.

Matrigma test Example

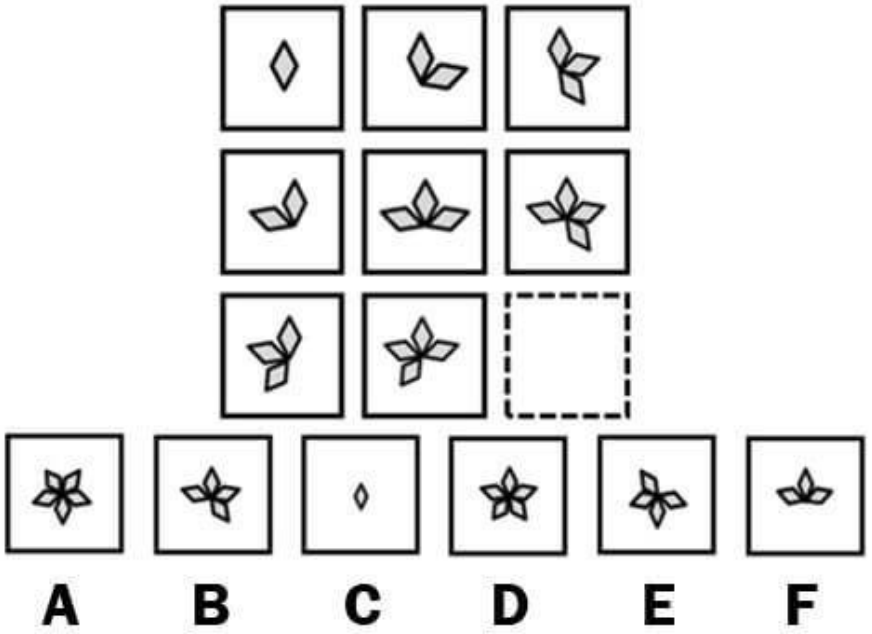
- The questions in the Matrigma are presented in 3x3 matrices, in which you're asked to find the missing tile marked by a question mark **(?)**.
- Matrigma tests are difficult especially for people that have never tried this type of question before.
- **There are 5 logical rules** you need to understand and learn to recognise in order to familiarize yourself Matrigma.

Understand the following matrix

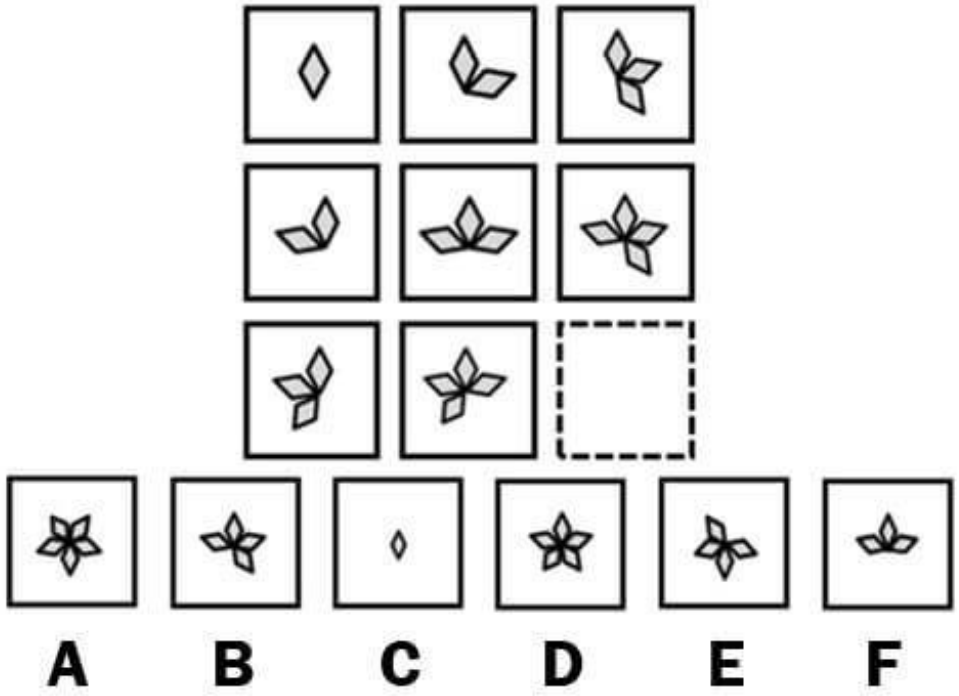


Rule 1: Progression

- In this kind of matrix, the object changes, or rather progresses with every step throughout the row or the column (the direction may vary).



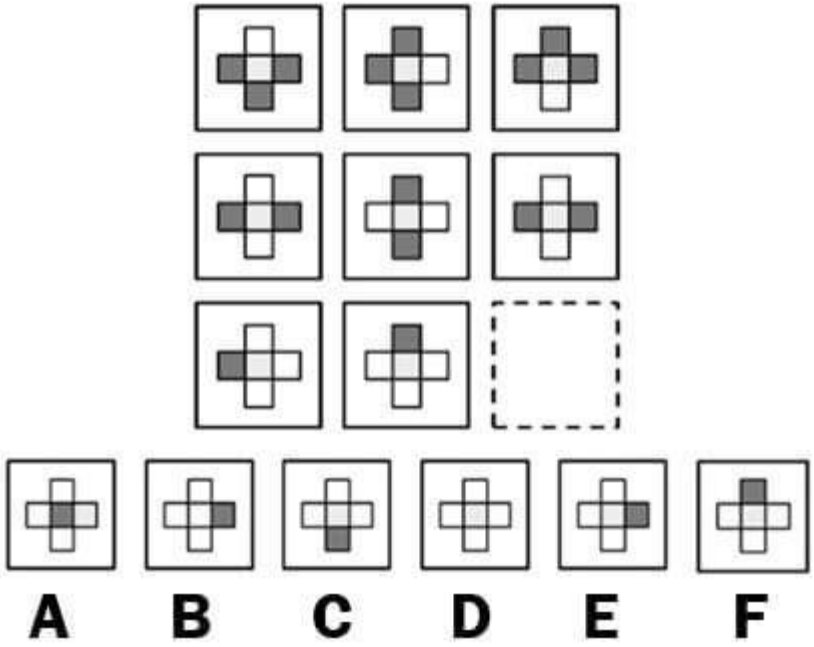
Check answer

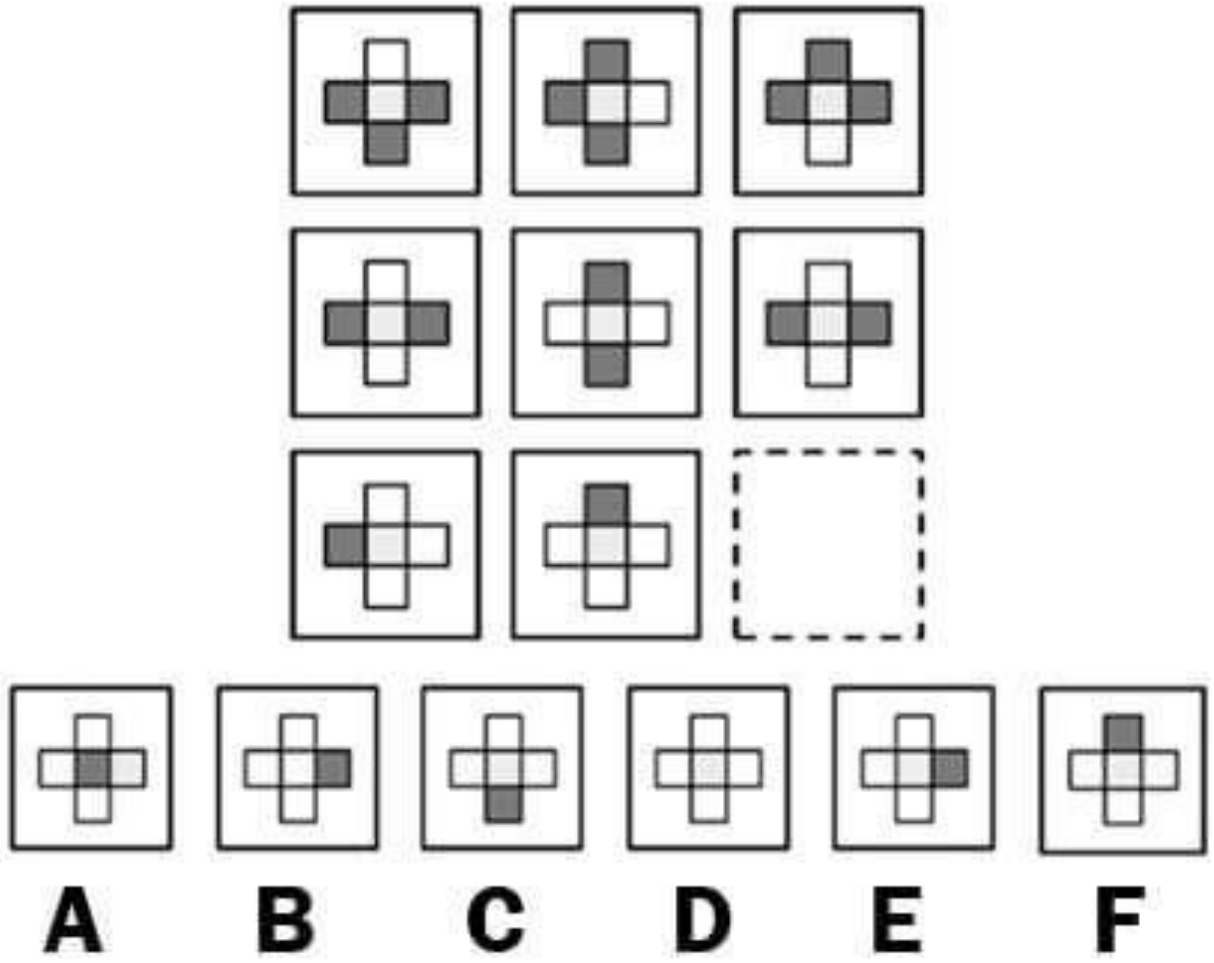


- ✔ **The correct answer is D.**
- In this example, in each step, one rhombus shape is added to the frame. This rule applies to both the rows and the columns.
- **In the rows**, the addition progresses in a clockwise direction.
- **In the columns**, it progresses in an anticlockwise direction.

Rule 2: Rotation

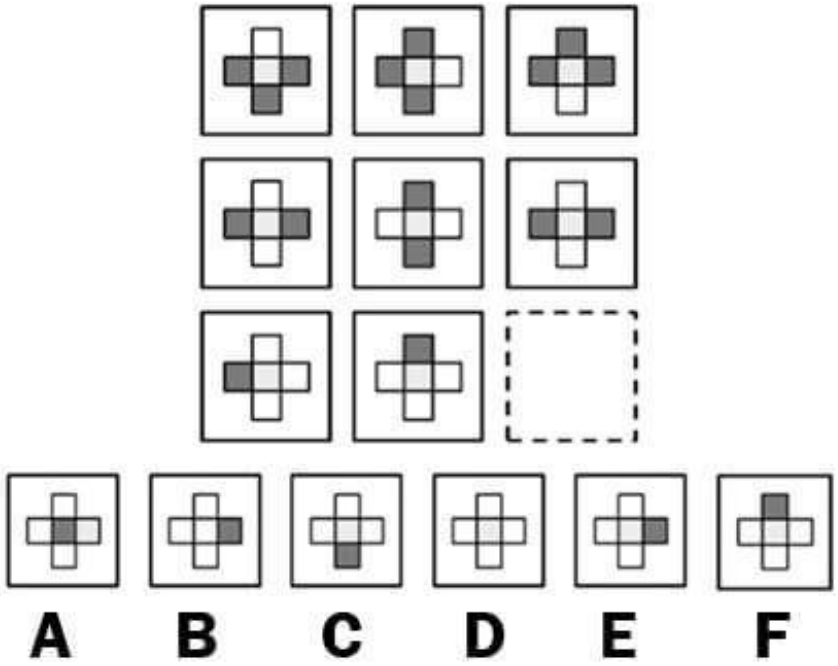
- In questions of this type, the figures in the matrix rotate in a determined pattern across either rows or columns.





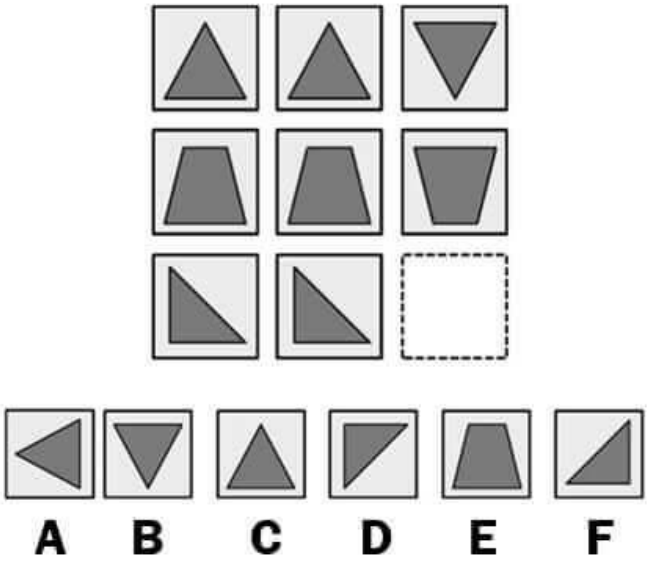
Check answer

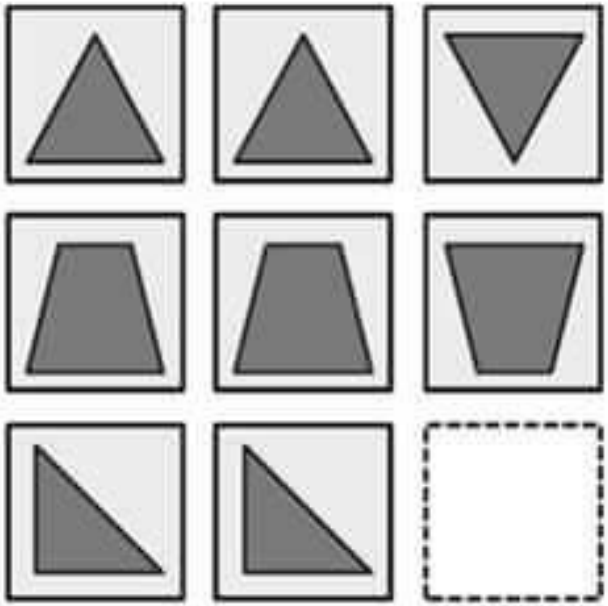
- ✓ **The correct answer is E**
- You can see that the figure rotates upon its axis at 90° clockwise in each frame (looking from left to right).
- It makes sense to look at the changes occurring in the rows from left to right, as the missing figure is the rightmost frame in the bottom row.
- The missing figure, then, is the one which completes this pattern.
- Look at the middle figure in the bottom row and picture what it would look like if it were turned 90° clockwise. This is your answer.

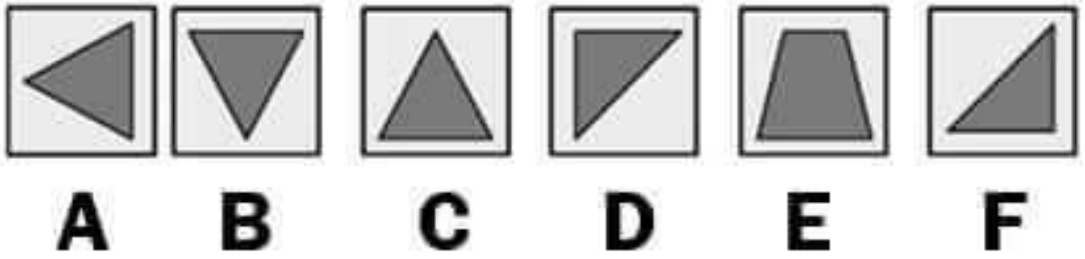


Rule 3: Frequency

- In questions of this type, the relationship between certain features of the figures in the matrix determines the frequency and/or order of their appearance. Let's look at an example:

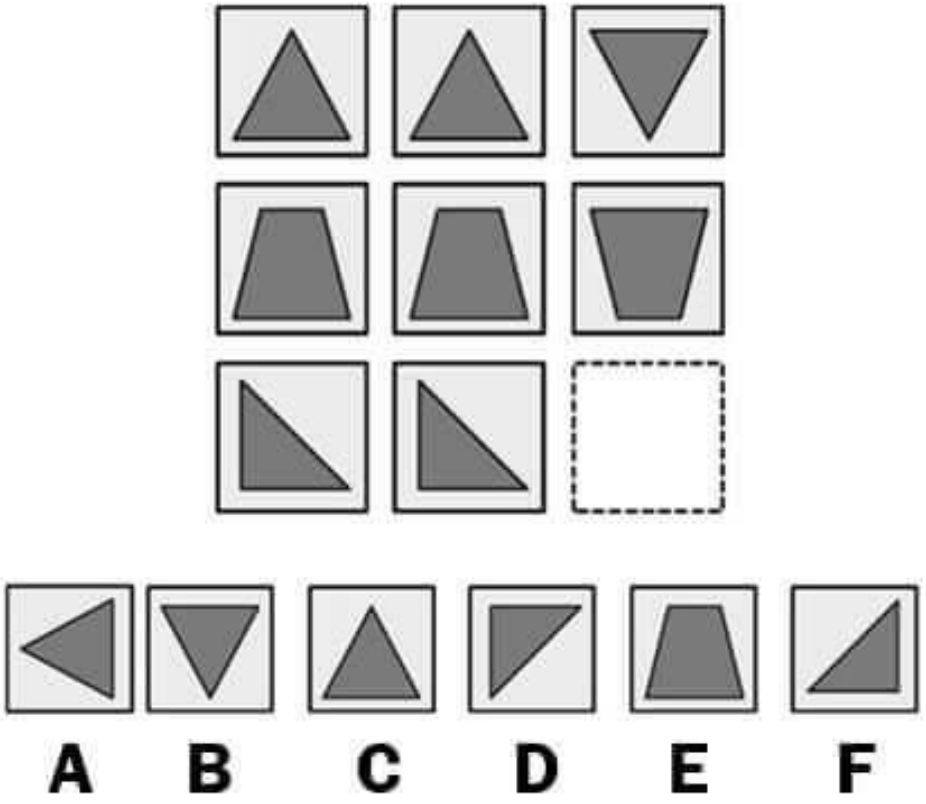






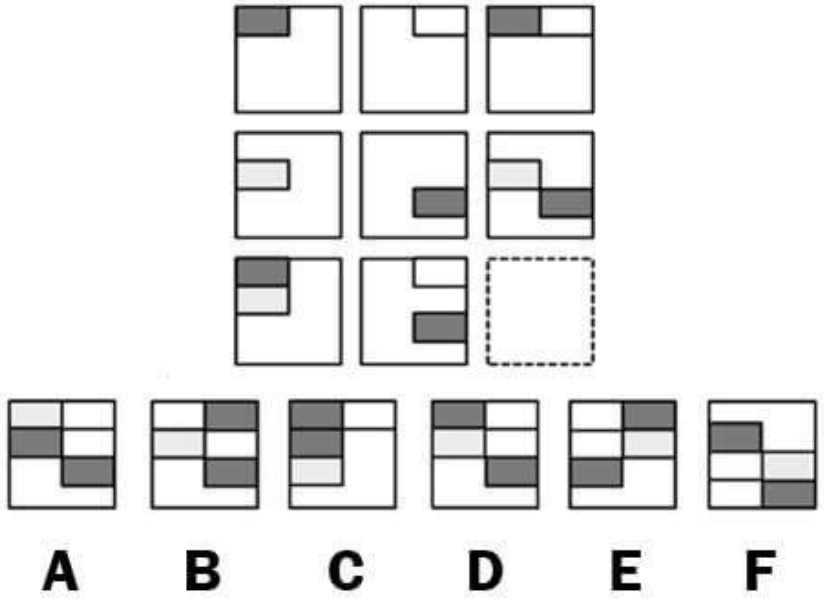
Check answer

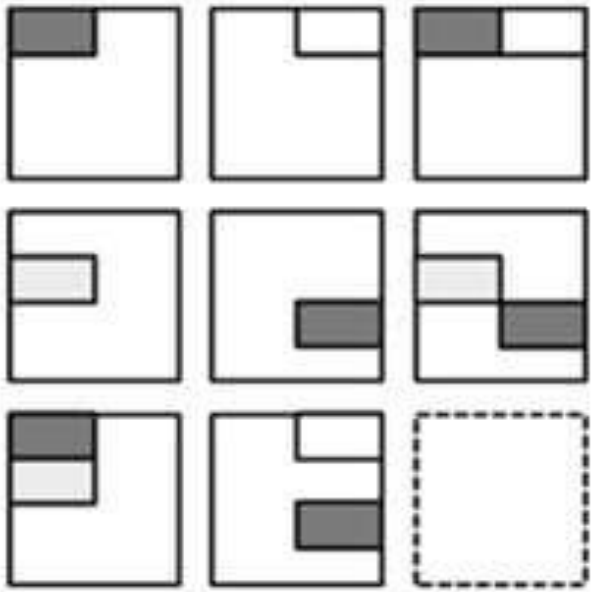
- ✓ **The correct answer is D**
- In this sample question, the relationship is between the alignment of the shapes.
- You can see that the pattern established in the top 2 rows is that two of the 3 shapes face a certain direction and the third shape faces the opposite direction.
- Looking at the columns, you can see **the relationship is of shapes**.

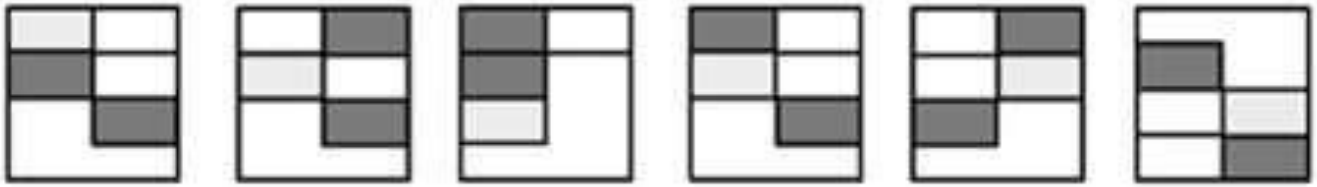


Rule 4: Construction

- In this kind of matrix, two objects from the same row or column are combined to form the third object. In simple matrices, this combination might look just like a simple addition equation. For example:



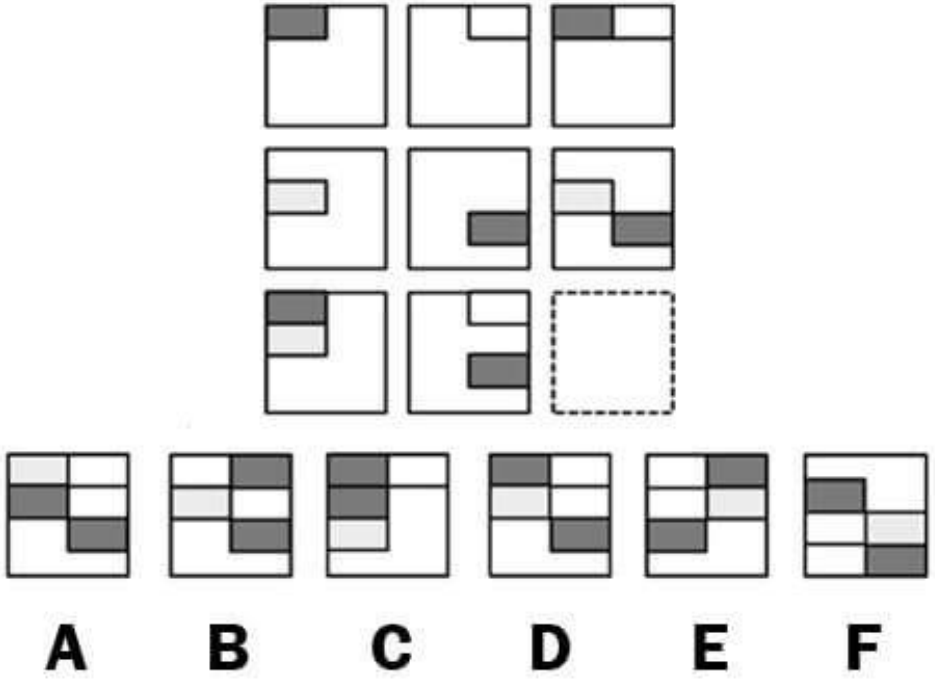




A B C D E F

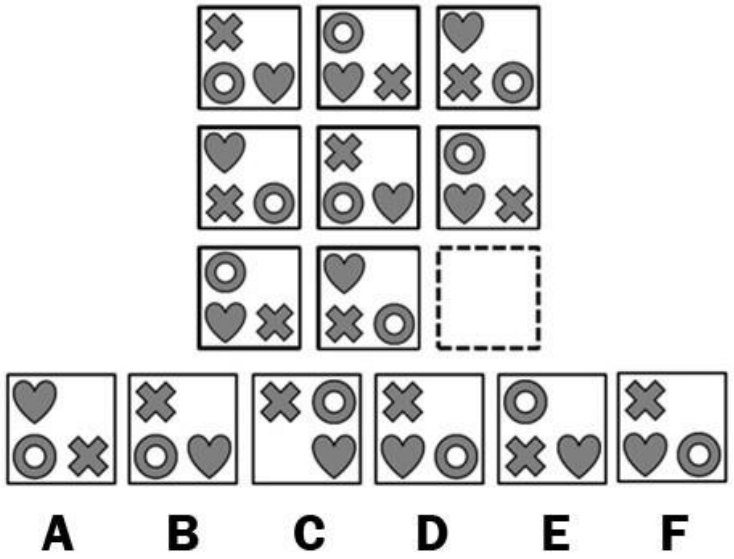
Check answer

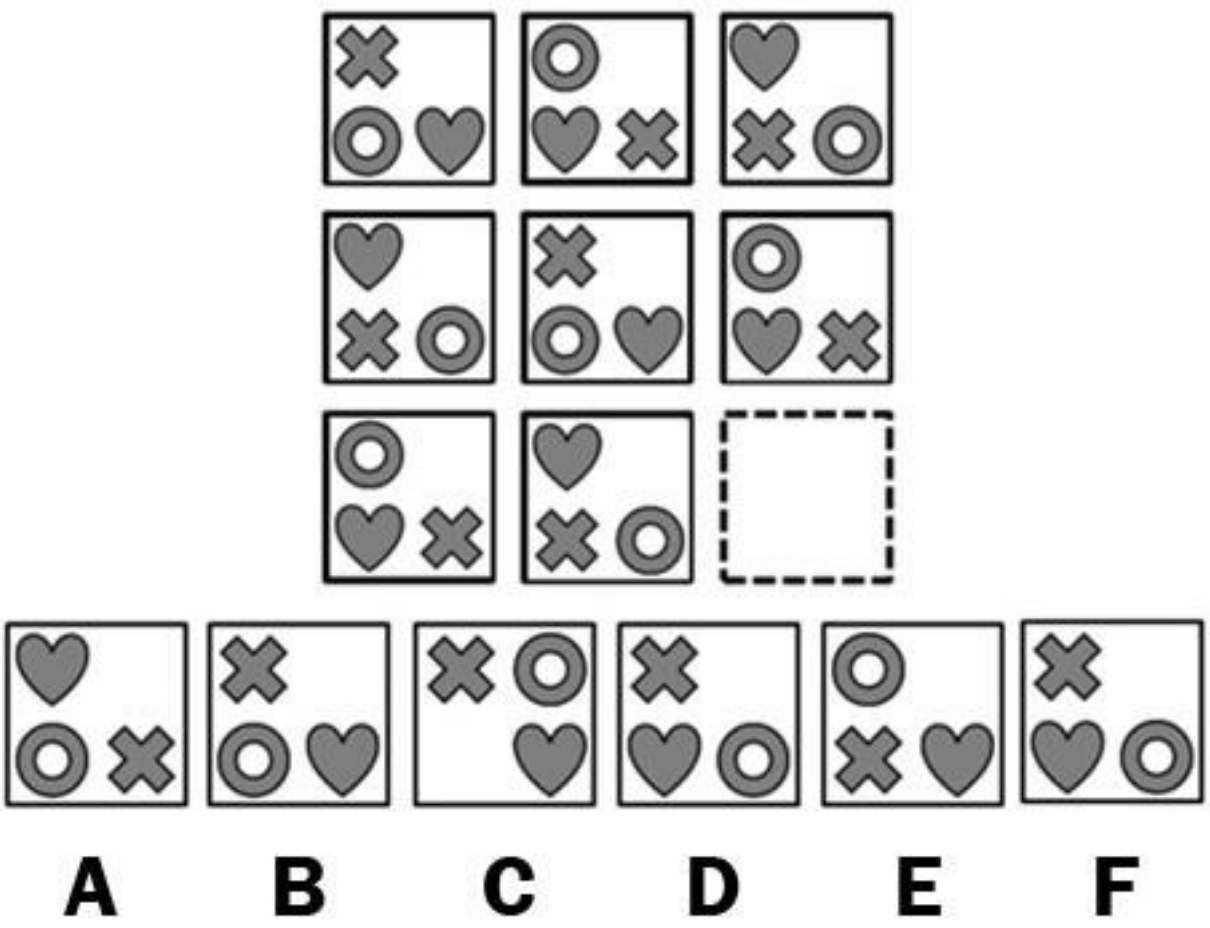
- **The correct answer is D**
- This question shows that the combination of any 2 consecutive blocks starting from the top left corner, either vertical or lateral, form a third block that combines both preceding blocks.
- The combination of the 2 objects in the bottom row, or that of the 2 items in the right column form answer D.



Rule 5: Motion

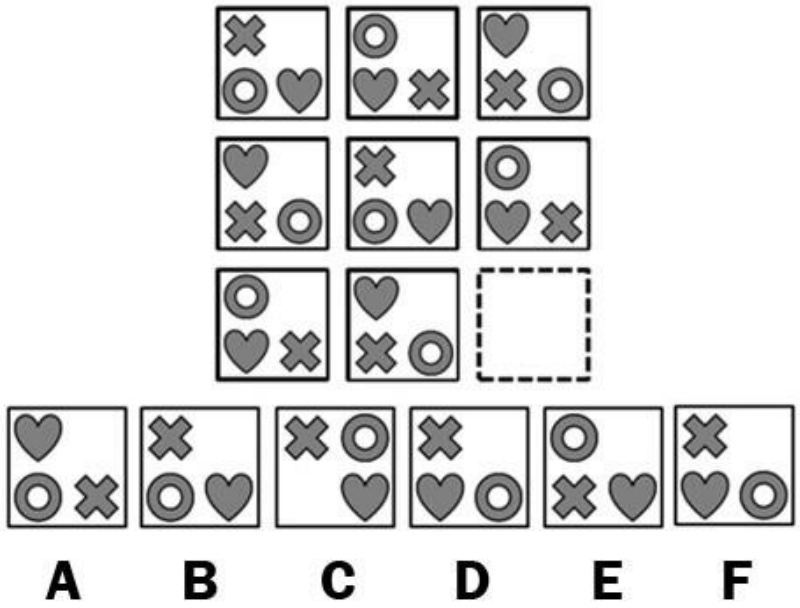
- In motion matrices, the objects move (change their position) with each step.
- Usually, the motion is of one or more of the objects inside a frame.
- To identify the movement of the inner object, it is useful to compare the outer object or frames across either the rows or columns.





Check answer

- ✓ **The correct answer is B**
- **In each frame, there are three shapes:** a X, a heart shape, and a circle.
- In each step, the three shapes move positions in a clockwise direction.
- Therefore, in the correct answer, the X should be at the top-left corner of the frame, the circle at the bottom-left corner, and the heart at the bottom-right corner.

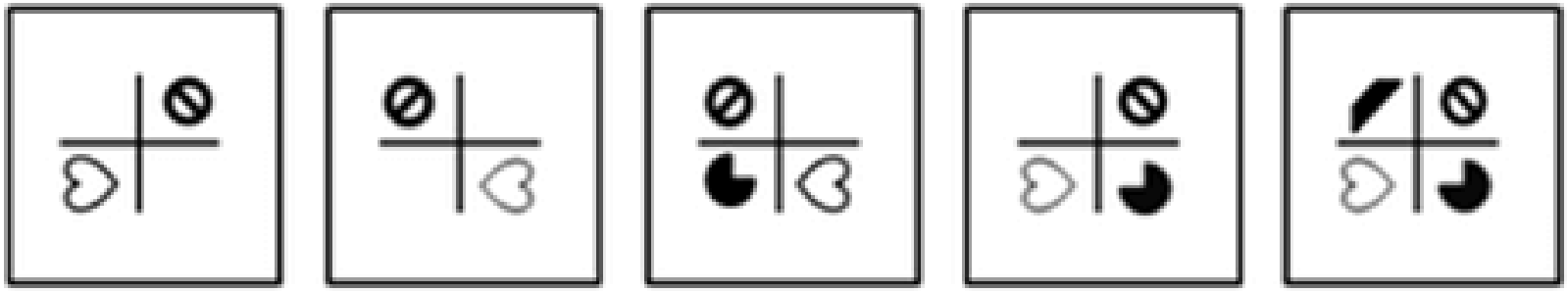


Reasoning Ability Tests

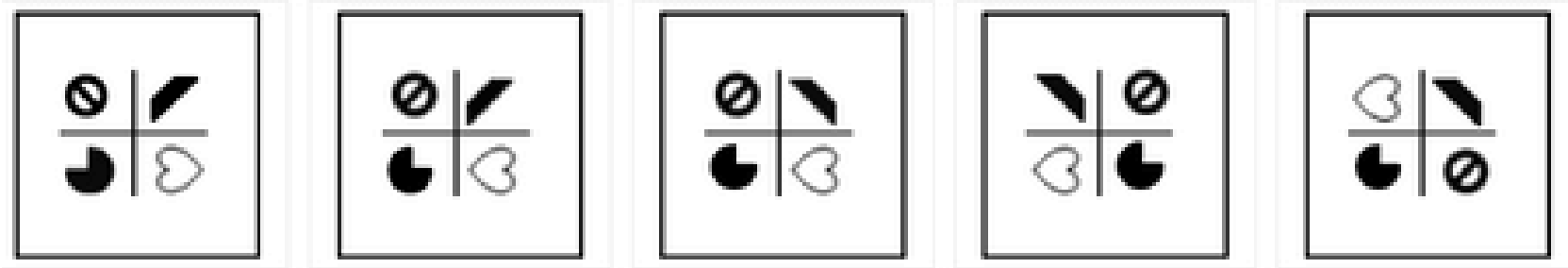
- In these tests you will be presented with a sequence of five images that have a pattern running through the series. You have to identify this pattern and use it to deduce the next image in the pattern.

An Example Question

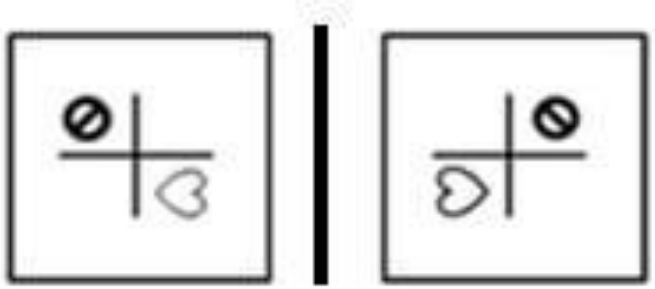
Look at the following example question. What do you think the answer is?



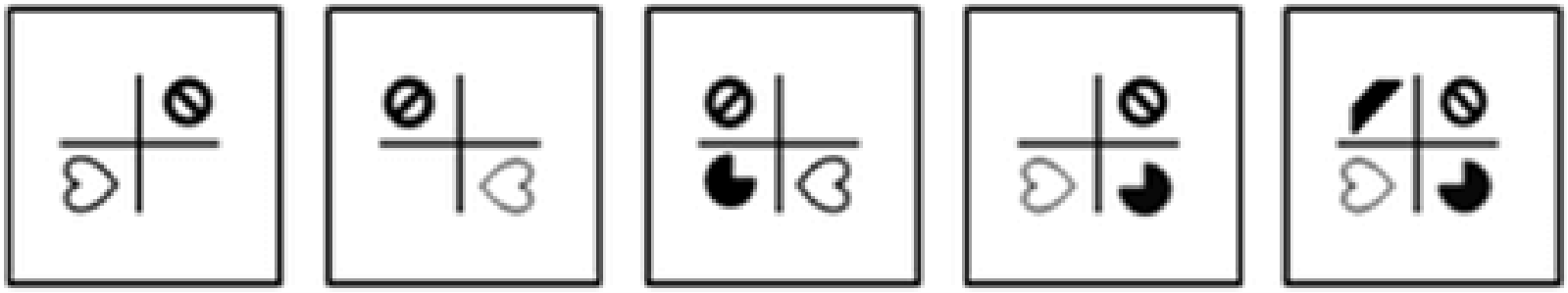
- Which of the following follows on from the sequence?



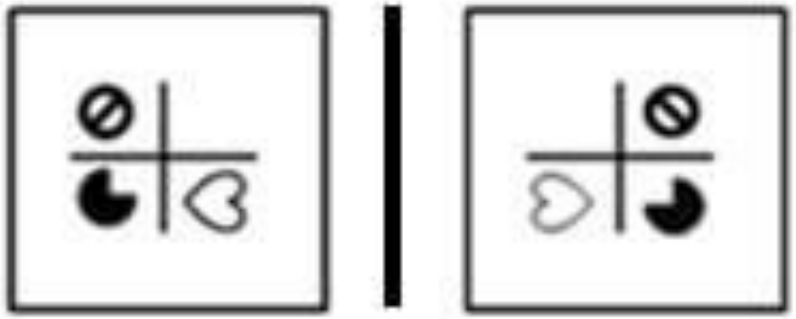
- Let’s take a closer look at the question above. From left to right we can see that the images increase after each set of two matrices. Moreover we can see that for each set the actual shapes stay the same.
- Finally, we can see that the second image of the set is a mirror image of the first one. For example:



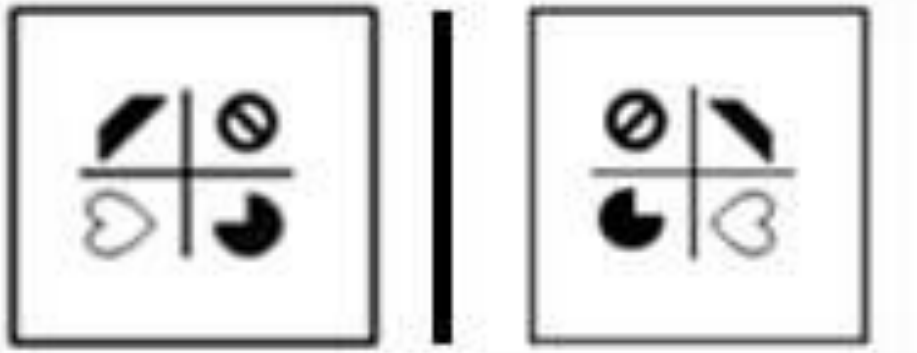
Check answer



As we can see, the image on the right is a mirror image of the one on the left. The following is true for the next two images as well:



- We can therefore use the same rules to determine the last set of two. This gives us:



Abstract Reasoning Tests

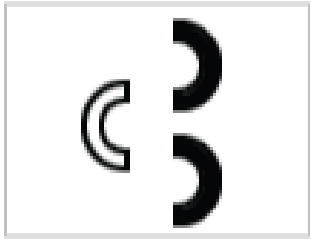
- There are four different question types in the Abstract Reasoning section:
- Type 1 – You are given a test shape and asked to decide to which set of shapes presented your shape belongs (Set A, Set B, or Neither).
- Type 2 – You need to choose which shape comes next in the provided series of shapes.
- Type 3 – You need to select which shape completes the provided statement (involving a group of shapes). These statements are presented in the form of an analogy.
- Type 4 – There are two sets of shapes and you need to choose which answer choice belongs to one of the sets.

- In some cases the questions present shape sequences that are ordered by a predetermined logic. The examinee is then being asked to choose the following shape in the sequence or draw conclusions about the shape's expected configuration and conformation after it has gone through a spatial change.

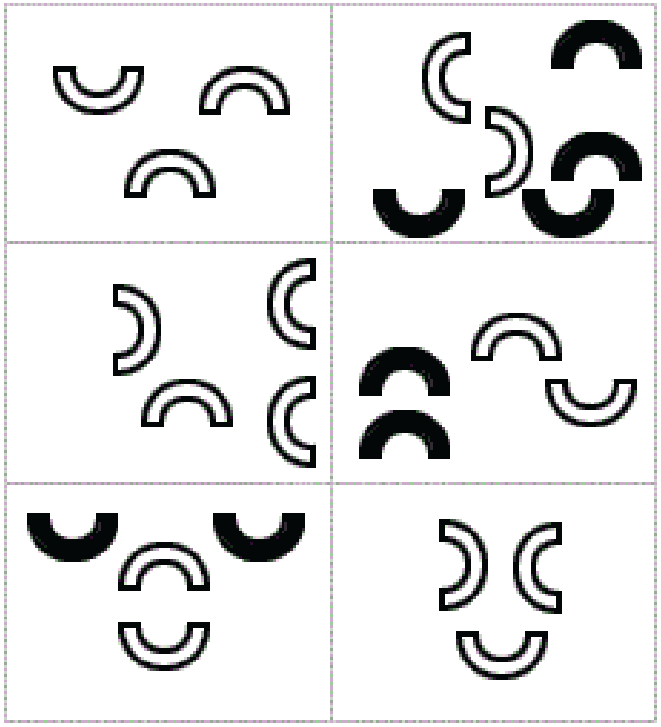
Question Type 1

Where does the following test shape belong?

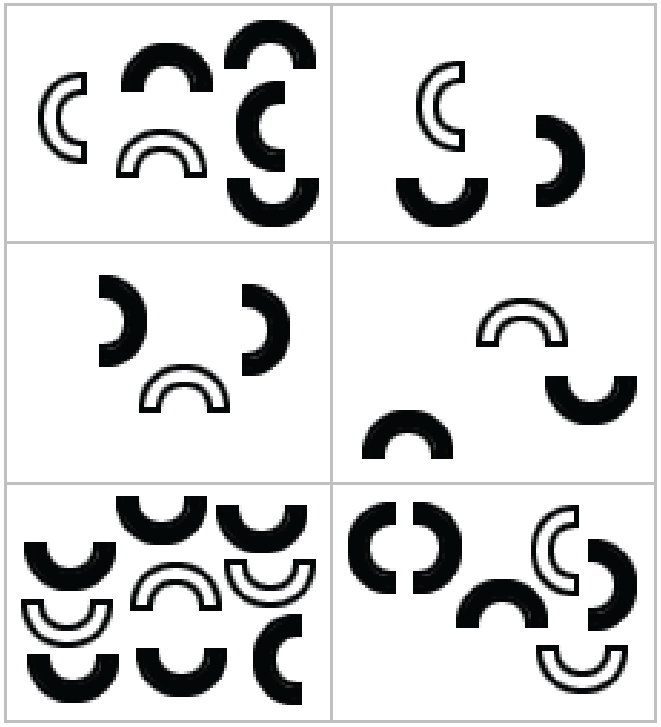
Test Shape



Set A



Set B



Set A

Set B

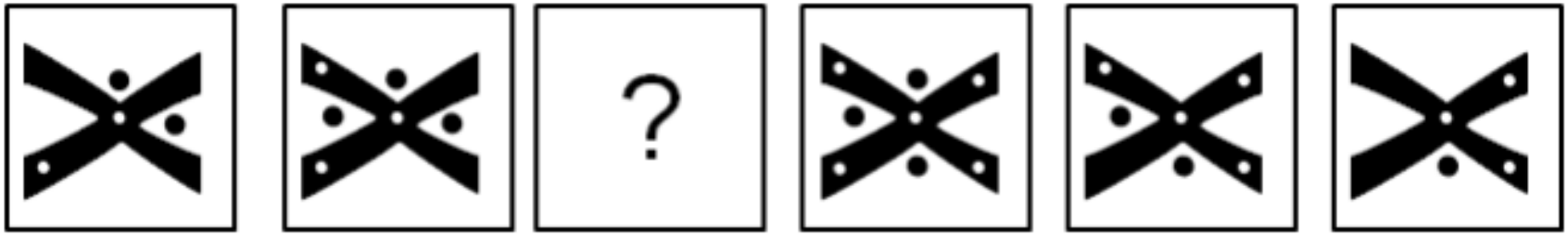
Neither

Inductive Reasoning example

Which of the shapes below continues the sequence:

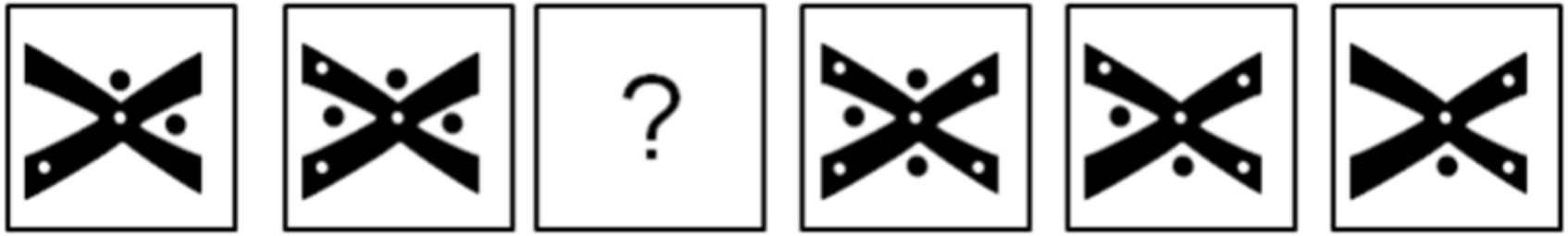
The answer is:

Inductive Reasoning example

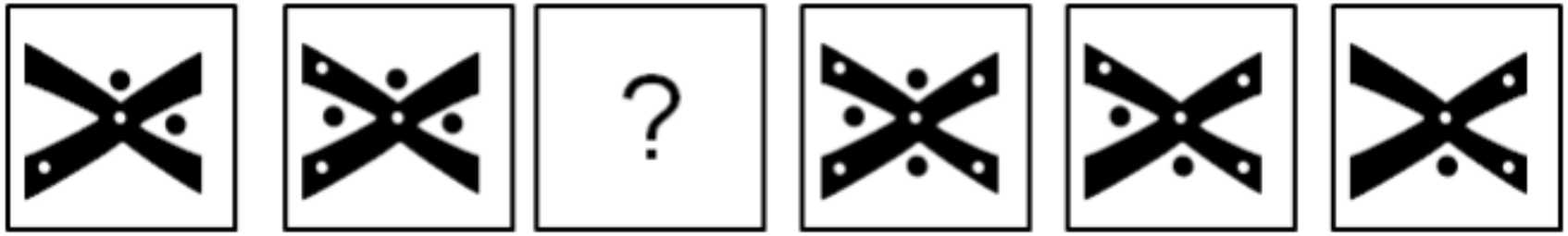


Which of the shapes below continues the sequence:

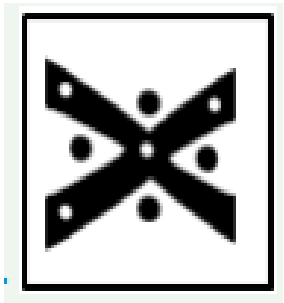
Check answer



- The logic: An X shape is dotted with black and white dots. Both sets of dots are independent and follow a similar pattern. In each frame, a black dot is added counter-clockwise in the angles of the X shape, until all the angles are occupied. Then a dot is reduced, also counter-clockwise. The same pattern occurs with the white dots, only in a clockwise manner.
- Examining the changes before and after, the “question mark” figure should look the same as in frame 2, only with an additional black dot (making all four black dots present) and an additional white dot in the upper right corner, as determined by the pattern



Which of the shapes below continues the sequence:



Programme continues……