6. Which of the five numbered figures will come next to complete the analogy or relationship?

\[
\begin{array}{ccc}
\text{1} & \text{2} & \text{3} \\
\text{4} & \text{5}
\end{array}
\]

**ANSWER:** 1 superimpose the figures and rotate them.

7. Identify the numbered figure that completes the relationship, similar to that between the first two figures.

\[
\begin{array}{ccc}
\text{1} & \text{2} & \text{3} \\
\text{4} & \text{5}
\end{array}
\]

**ANSWER:** 2 The two figures represent side views and top views of the same pair of objects. A lens surmounted by a right pyramid is the only figure which fits.
8. Choose the figure that replaces the question mark (?) to give the same relationship as the first two figures.

```
  \[ \frac{1}{2} \] : : \[ \frac{3}{4} \] : : \[ \frac{1}{2} \] : : ?
```

**ANSWER:** 2 The figure is turned 90° in the clockwise direction.

9. Which of the five numbered figures completes the sequence, with the same relationship as between the first two figures?

```
  1  2  3  4  5
```

**ANSWER:** 5 The rectangle, like the circles, turns a quarter of a turn and the colours of its surfaces (white and shaded) are reversed.
10. Choose an appropriate figure from the five numbered figures to replace the question mark (?).

\[\text{is to} \quad \text{as} \quad \text{is to} ?\]

ANSWER: 2 The top shapes change places. The bottom shape stays in the same position but changes colour.

Practice Questions

Directions: In each of the following questions, two sets of figures are given, viz: Problem Figures (PF) and Answer Figures (AF). The first two PF bear a certain relationship. Based on the same relationship (analogy) select from answer figures (AF) an appropriate figure to replace the question mark in PF.

1. Problem Figures

<table>
<thead>
<tr>
<th>Answer Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
</tbody>
</table>

2. Problem Figures

36
Answer Figures

A

B

C

D

E

3. Problem Figures

Answer Figures

A

B

C

D

E

4. Problem Figures

Answer Figures

A

B

C

D

E

5. Problem Figures

Answer Figures

A

B

C

D

E
6. Problem Figures

Answer Figures

7. Problem Figures

Answer Figures

8. Problem Figures

Answer Figures

9. Problem Figures
Answer Figures

A  B  C  D  E

10. Problem Figures

Answer Figures

A  B  C  D  E

11. Problem Figures

Answer Figures

A  B  C  D  E

12. Problem Figures

Answer Figures

A  B  C  D  E
13. Problem Figures

Answer Figures

14. Problem Figures

Answer Figures

15. Problem Figures

Answer Figures

16. Problem Figures
17. Problem Figures

Answer Figures

Answers and Explanations

1. (d) The line takes a full turn from left to right and small lines shift from left to right in PF 1 and 2. Keeping the same analogy, PF 3 turns and figure (d) in answer figure shows its position to replace the question mark.

2. (e) In PF 1 and 2 you will note that while small balls shift from top to bottom they reduce in number and similarly the small ticks. Similarly to replace the question mark in PF 4, AF (e) shows the correct position and number of ticks.

3. (d) Arrows change direction in first two PF, and the small ball changes direction. On the same pattern, PF 3 should change directions of arrows and the position of small ball to replace the question mark in PF 4.

4. (e) The intersecting vertical arrows turn upside following anticlockwise motion.

5. (d) Small ball and plus (+) and multiplication signs (x) change positions, and + while changing place becomes x.
6. (e) Two signs decrease while changing positions, two signs change positions without changing in number.

7. (d) While the main figure changes direction, the open lips close and shaded and unshaded figures change positions.

8. (d) The main figure change directions.

9. (d) The main figure change the position and also the direction shown by the arrow signs.

10. (d) The intersecting arrows change directions in specific order. Compare PF 1 and 2 with AF d and PF 3.

11. (d) Vertical lines become horizontal and vice versa. At the same time one item increase and one decrease on the lines.

12. (d) Inner figure comes out and outer figure goes in.

13. (d) One line is added in each figure. The plus sign change direction as the small ball changes direction in PF 3 and AF (d).

15. (d) While the main figure changes direction, the plus (+) becomes (x).

16. (e) The main figure change direction through clockwise motion.

17. (e) Double lines while in horizontal arrangement or vertical arrangement changing direction reduce to one and in change direction increase to two.

**CATEGORY 4 - PATTERN COMPARISON BETWEEN TWO SETS OF FIGURES**

In these reasoning tests, you are given a set of figures, each figure is divided into two components I and II. Your task is to determine the relationship between the components I and II in each figure.

**Illustrations**

In each of the following questions, in 4 out of 5 figures, elements I and II are related in some way. Find out the figure in which the element I is not so related to element II?
Answers and Explanations

1. D  In each pair, one of the figures enlarges in the second part and encloses the other figure. Hence in D the triangle should have enlarged and enclosed the circle.

2. D  In each pair, in the first part there is a large figure, which in the second part reduces in size and increases by one in number. Hence, in D, there should have been two small squares.
3. E  The figure in part I of each pair reduces in size and doubles in number in part II. In part II, another figure is added to this reduced figure. Hence in E there should have been two semicircles along with a triangle or a circle.

4. D  The figure in part I is intersected by a similar design of smaller size in part II. Hence in D the square intersecting the figure does not make an appropriate comparison is not correct.

5. D and E  In the first part there is a figure which in repeated in the second part, along with two new identical figures. In D and E this pattern is not followed.

**Practice Questions**

In each of the following questions, in 4 out of 5, figures, elements I and II are related in some way. Find out the figure in which element I is not so related to element II.

![Practice Questions Diagrams]
Answers and Explanations

1. (D) In all the alternatives, the figure in element I can be disintegrated to make 2 or more figures in element II. But in D the figure is not divided or disintegrated.

2. (D) The figure in element I is never present in element II, except in alternative A.

3. (C) The figure in element I encloses a figure similar to that in element II in all the alternatives. Also, the enclosed figure is bisected into two parts one shaded and other white (unshaded). But in B the enclosed figure is not only bisected but the parts are also separated.

4. (E) The design of the first part is repeated in the second part along with its bigger version and a new design is added. In E there are two small squares. In fact one should have been slightly bigger.

5. (E) The design of the first part is intersected by a similar design smaller in size. In E in the second part instead of intersecting circle there should have been a small semicircle.
6. (E) One additional line is added in the second part. In E two lines have been added.

7. (D) The design of first part is bifurcated exactly in the middle making two identical half in the next figure.

ARRANGING FIGURES IN SEQUENCE

In this test you are required to arrange the given figures in a proper sequence or order. All the given figures have some common elements/similarities. However, they are not arranged in proper order. Your task is to arrange them in their natural sequence.

Illustration

Identify the two figures from the following set of figures which are out of position and require interchange of positions to put the entire series in order.

1. 

| A | B | C | D | E | F |

ANSWER: E and F In each figure, one line is increasing whereas in figure E there are six lines instead of five. Therefore to complete the pattern the figure F should come in place of figure E and vice versa.

2. 

| A | B | C | D | E | F |

ANSWER: E and F The size of the circle decreases with the increase in the shaded portion. Therefore F should replace E and vice versa.
3.  

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
</table>

**ANSWER:** B and C  
In each figure the size of the circle and the rectangle decreases, whereas circle C is bigger than circle B. Therefore, figure C should be in place of figure B and vice versa.

4.  

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
</table>

**ANSWER:** E and F  
Figures E and F should be interchanged to maintain the continuity of the sequence.

5.  

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
</table>

**ANSWER:** B and F  
Figure B should be in place of figure F and vice versa.

**Practice Questions**

**Directions:** The figure at the extreme left starts the series and the figure at the extreme right is the last figure of the series. In between, there are five figures marked A, B, C, D and E out of which only one does not fit into the series. Select the figure which does not fit into the series.

1.  

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

**ANSWER:**
DETECTION OF FIGURE OUT OF SERIES

In this type of reasoning test, a set of seven figures is given. The first and the last figures are in proper order but five figures, marked A, B, C, D and E are not in proper sequence. Your task is to rearrange these jumbled figures to form a series.
Illustrations

Directions: The figure at the extreme left starts the series and the figure at the extreme right (end) is the last figure of the series. In between, there are five figures marked A, B, C, D and E, out of which only one does not fit into the series. Select the figure which does not fit into the series.

1. [Explanation and figures]

2. [Explanation and figures]

3. [Explanation and figures]

4. [Explanation and figures]

5. [Explanation and figures]
6. [Figures A, B, C, D, E]

7. [Figures A, B, C, D, E]

8. [Figures A, B, C, D, E]

9. [Figures A, B, C, D, E]

10. [Figures A, B, C, D, E]

**Answers and Explanations**

1. (C) A careful examination of these figures will reveal that out of three items (square, triangle and circle), the last item moves forward and remaining two follow. Hence in C when the circle moves forward, first the triangle and then the square should follow. Hence, the triangle should come in the middle.

2. (B) Same as above. In B the equal to sign (=) should be the right most item, followed by the circle and the triangle to its left.
3. (D) Same as above. The multiplication sign (x) moves one place upward and the other items follow. Hence in D when the multiplication sign moves upward, the equal to sign (=) should come in the middle and the circle (o) should come at the bottom.

4. (D) The triangle and the circle, while moving up and down the arrow, change places.

5. (C) The black dot (.), the plus sign (+) and the circle (o) move from bottom to top. In C, therefore, the circle should be in the centre and the plus sign at the bottom.

6. (C) Here the item in the middle moves up. The other two items follow in the same order without change.

7. (D) The circle (o) first moves from left to right, and then from top to bottom within the square. Hence, in D, the circle should have been on the left hand side and not at the top.

8. (E) The arrow inside the circle, while turning up and down, alternately moves from left to right.

9. (B) There are four items (black dot, equal to, plus and small circle). The item at the bottom takes the top position and other items follow without change.

10. (E) The black dot moves from left to right. Hence in E it should be towards the right.

**Practice Questions**

*Directions:* Which of the following choices is the exact mirror image of the main figure? (Please note that the mirror is present on the left side of the main figure).

1. A B C D
NON-VERBAL REASONING TESTS

2. [Images of figures A, B, C, D]
   Answers: 1. (C) 2. (A) 3. (B) 4. (A) 5. (D) 6. (B) 7. (B)

MIRROR REFLECTION OF A PATTERN

In following questions, a key/main figure is given, under which four or five alternative figures are given. Your task is to identify the figure that is the mirror
reflection of the main figure. For this identification, remember that the mirror image is always opposite to the original and of the same size.

Illustrations
Which of the answer figures, marked A, B, C and D is exactly the mirror image of the key/main figure?

1.

\[
\begin{array}{|c|c|}
\hline
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\]

ANSWER: C

2.

\[
\begin{array}{|c|c|}
\hline
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & \bigcirc \\
\hline
\end{array}
\]

ANSWER: C

3.

\[
\begin{array}{|c|c|}
\hline
+ & 0 \\
\hline
\bigtriangleup & = \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\hline
= & + \\
\hline
\bigtriangleup & = \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\hline
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & = \\
\hline
\end{array}
\quad
\begin{array}{|c|c|}
\hline
\bigcirc & \bigcirc \\
\hline
\bigtriangleup & = \\
\hline
\end{array}
\]

A

B

C

D
ANSWER: A

Direction: Which of the answer choices marked A, B, C and D is the mirror image of the key figure, when the mirror is held at AB?

4. Key Figure

ANSWER: C

Directions: Which of the answer figures A, B, C and D is the mirror image of the key figure when the mirror is held at PQ?

5. Key Figure

ANSWER: D

Practice Questions

1.
NON-VERBAL REASONING TESTS

5.

Answers:

A  B  C  D

6.

A  B  C  D

7.

A  B  C  D

Answers:
1. (B) 2. (A) 3. (D) 4. (C) 5. (D) 6. (A) and (C) 7. (B)

CATEGORY 5 - DETECTION OF HIDDEN FIGURE IN A GIVEN PATTERN

These non-verbal tests are designed to judge your sense of observation and analytical ability. A key or main figure is given, followed by four or five answer choices. In one of these answer figures a main design, given in the key/main figure, is hidden. Your task is to identify the hidden figure in the main figure from amongst the answer choices.

Illustrations

Each of the following questions has a problem figure and four answer figures. You have to select from the answer figures the alternative that contains the hidden design/pattern of the problem figure.

1.

![Problem Figure](image1)

[A][B][C][D]

Answer: C

2.

![Problem Figure](image2)

[A][B][C][D]
3. Answer: B

4. Answer: D

5. ANSWER: C
NON-VERBAL REASONING TESTS

ANSWER: D

Practice Questions

1.

2.

3.

4.
5. Answer: (B)

6. Answer: (B)

7. Answer: (C)

Answers: 1. (A) 2. (A) 3. (B) 4. (C) 5. (B) 6. (B) 7. (C)

CATEGORY 6- FIGURES ROTATION

In these questions, the question figure, which comprises various components, is rotated one step in a particular direction (clock-wise or anticlockwise). You have to identify its rotated form from the given answer figures.

Illustrations

Directions: When the key figure (or the main figure) is rotated one step clockwise, which of the answer figures will represent the main figure in the rotated form?
1. Main Figure

Answer Figures

1 2 3 4

ANSWER: 4

2. Main Figure

Answer Figures

1 2 3 4

ANSWER: 2

Directions: When the key figure is rotated one step clockwise, which of the answer figures given will represent the main figure in the rotated form?

3. Main Figure
Answer Figures

1

2

3

4

ANSWER: 3

4. Main Figure

Answer Figures

1

2

3

4

ANSWER: 2

Directions: When the key figure (or the main figure) is rotated one step anti-clockwise, which of answer figures will represent the main figure in rotated form?

5. Main figure

Answer Figures

1

2

3

4


Answer Figures

ANSWER: 2

6. Main Figure

Answer Figures

ANSWER: 1

7. Main Figure

Answer Figures
8. **Main Figure**

![Main Figure](image)

**Answer Figures**

1. ![Answer Figure 1](image)
2. ![Answer Figure 2](image)
3. ![Answer Figure 3](image)
4. ![Answer Figure 4](image)
5. ![Answer Figure 5](image)

**Answer:** 2

9. **Main Figures**

![Main Figures](image)

**Answer Figures**

1. ![Answer Figure 1](image)
2. ![Answer Figure 2](image)
3. ![Answer Figure 3](image)
4. ![Answer Figure 4](image)

**Answer:** 1

10. **Main Figure**

![Main Figure](image)

**Answer Figures**

1. ![Answer Figure 1](image)
2. ![Answer Figure 2](image)
3. ![Answer Figure 3](image)
4. ![Answer Figure 4](image)
ANSWER: 1

Practice Questions

1. Main Figure

Answer Choice

A                          B                            C                            D

2. Main Figure

Answer Choice

A                          B                            C                            D
3. Main Figure

Answer Choice

4. Main Figure

Answer Choice
5. Main Figure

Answer Choice

6. Main Figure

Answer Choice
7. Main Figure

Answer Choice

A  B  C  D

PATTERN COMPLETION TESTS

These tests are developed to judge your ability to comprehend geometric figures and diagrams. These also test your skills in perceiving the structure of a design and identifying the part missing in the main figure from the answer choices given. In the given figure, a portion is left blank or incomplete. Below the main figure you will find answer choices, each containing some part of the main figure. Your task is to select the answer which fits into the blank space so that the main figure is completed.

Illustrations

Directions: Select from the answer choices the figure that fits in the main figure to complete its original design/pattern.

1. Main figure
2. Main Figure

Answer Choice

Answer: 1

3. Main Figure

Answer Choice

Answer: 4

4. Main Figure

Answer Choice

Answer: 2
5. Main Figure

Answer Choices

Answer: 4

6. Main Figure

Answer Choices

Answer: 4

7. Main Figure

Answer Choices

Answer: 4
8. Main Figure

Answer Choices

ANSWER: 2

9. Main Figure

Answer Choices

ANSWER: 3
10. Main Figure

Answer Choices

Answer: 2

Practice Questions

In the following questions, which of the alternative figures has the maximum number of items or products of the main figure?

1. Main Figure

Answer Figures

2. Main Figure
3. **Main Figure**

![Main Figure](image)

**Answer Figures**

A                     B                       C                       D                       E

4. **Main Figure**

![Main Figure](image)

**Answer Figures**

A                     B                       C                       D                       E
5. Main Figure

Answer Figures

6. Main Figure

Answer Figures

7. Main Figure
Answer Figures

1. Main figure

ANSWER: 1
2. **Main Figure**

![Main Figure](image)

**ANSWER:** 4

3. **Main Figure**

![Main Figure](image)

**ANSWER:** 1

4. **Main Figure**

![Main Figure](image)
5. Main Figure

Answer: 3

6. Main Figure

Answer: 3
7. **Main Figure**

![Figure 7](image1)

**Answer:** 2

8. **Main Figure**

![Figure 8](image2)

**Answer:** 2

9. **Main Figure**

![Figure 9](image3)

**Answer:** 3
GROUPING OF IDENTICAL FIGURES
In the following reasoning tests, a set of 8 or 10 different figures are given, each of which is numbered. Your task is to classify these figures into groups which comprise figures having more or less the same properties.
Illustrations
Directions: In the following sets of figures, there are six different figures. Group together the figures that are identical in some way or the other and form a group. Choose from the answer choices the number of figures which do not form any group of figures.

1.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th></th>
<th>B</th>
<th></th>
<th>C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

(a) 1, 5 and 9
(b) 2, 6 and 8
(c) 4, 3 and 7
(d) None of these

ANSWER: A

Explanation: Figure 2, 6 and 8 are all circles. Figures 4, 3 and 7 are all triangles. Other figures do not form any specific group because all the three figures are not identical.

Directions: Group the figures into these appropriate classes using each figure only once. Select the correct arrangement of figure numbers from the answer choices.
2. 

(a) 1, 3, 8; 2, 4, 6; 5, 7, 9 
(b) 1, 4, 9; 3, 6, 8; 2, 5, 7 
(c) 3, 4, 7; 9, 8, 7; 4, 3, 1 
(d) 2, 3, 6; 9, 3, 4; 6, 3, 2 

3. 

(a) 2, 4, 6; 9, 7, 3; 1, 4, 3 
(b) 7, 1, 3; 4, 3, 2; 5, 7, 9 
(c) 1, 3, 8; 2, 4, 6; 5, 7, 9 
(d) 4, 2, 5; 7, 1, 3; 5, 8, 9 

4. 

(a) 2, 4, 6; 9, 7, 3; 1, 4, 3 
(b) 7, 1, 3; 4, 3, 2; 5, 7, 9 
(c) 1, 3, 8; 2, 4, 6; 5, 7, 9 
(d) 4, 2, 5; 7, 1, 3; 5, 8, 9
APPLICATIONS OF GIVEN RULES TO A SET OF FIGURES

In this type of reasoning tests, four or five rows of different figures are given. In each question a specific rule is mentioned. You have to determine which row of figures follows the rule mentioned in the question.

Illustrations

Each of the following questions contains four rows of figures, marked A, B, C and D. Each row contains four or five different designs. You have to study carefully each row and judge which series of figures follows the stated rule exactly.
1. Rule
In one of the following set of figures, closed figures gradually become open and open figures gradually become closed. Choose the row of figures that follows this rule.

```
A
B
C
D
```

ANSWER: C

2. Rule
The simple figures become more complex along a row. Choose the row in which the figures become more complex as you move from one column to another.

```
A
B
C
D
```
3. Rule
The complex figure gets simpler as one from left to right. Choose the row that follows this rule.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

ANSWER: C

4. Rule
In each of the following rows, five figures are given. One of the four rows contains designs that follow a certain pattern which is not followed in figures of other rows. Choose the row containing these figures.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

ANSWER: C
PATTERN REARRANGEMENT
Here a key figure is given, certain parts of which are shaded or shown apart. Under each main figure, four or five answer figures are given. You have to identify from the answer figures the one that is a rearrangement of the parts of the main figure.

Illustrations

Directions: In the following questions select the answer figures that can be rearranged to form the main figure.

1. Main Figure

   ![Main Figure](image)

   A     B     C     D

   ANSWER: A

2. Main Figure

   ![Main Figure](image)

   E     F     G     H

   ANSWER: E
ANSWER: A

3. Main Figure

ANSWER: A

4. Main Figure

ANSWER: E

CATEGOR Y 7- PAPER CUTTING
In these questions, a sheet of paper is folded in certain given directions and cuts are made on it. You have to determine how this sheet of paper will look when it is opened up.
Illustrations
If a square sheet of paper is folded two times from the centre and cuts are made as shown in the problem figure (or main figure) how will it appear when it is opened? Select the appropriate figure from the answer choices marked 1, 2, 3 and 4.

1. Problem Figure

2. Problem Figure

3. Problem Figure
4. Problem Figure

5. Problem Figure
6. Problem Figure

7. Problem Figure

8. Problem Figure

9. Problem Figure
10. **Problem Figure**

ANSWERS: 1. (A) 2. (D) 3. (B) 4. (A) 5. (B) 6. (B) 7. (B) 8. (A) 9. (B) 10. (B)

**MAKING BLOCKS BY PAPER FOLDING**

This test is designed to judge your understanding of forming a given block by folding a sheet of cardboard/paper, to create a given design.

**Illustrations**

1. **Directions:** Look at the following box made by folding a piece of cardboard. It is formed by folding one of the four figures, marked A, B, C and D. You have to
determine which of the choices can be used to create the box (or the main design) given in the question figure.

Box

2. Directions: Look at the following shape. It has been made by folding one of the four answer figures, marked A, B, C and D. Select the appropriate answer figure.

Key diagram

ANSWER: D

COMPLETING A GIVEN BLOCK FROM BROKEN PIECES
In this type of reasoning, a blank block or design is given in the question. Each of the answer choices has different pieces. You have to select the set of pieces that can form block or design given in the question.

Illustrations
Directions: In the following questions a key block is given. Under it four answer figures, marked, A, B, C and D are given. Each answer figure contains pieces of different shapes. Identify the answer figure that can form the key block.
1. Key block

   ![Key block image]

   ANSWER: A

2. Key Block

   ![Key Block image]

   ANSWER: A

3. Key block

   ![Key block image]

   ANSWER: B
4. **Key Block**

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A
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**ANSWER: A**

5. **Key block**

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A
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**ANSWER: B**

**MAKING UP KEY FIGURES FROM GIVEN COMPONENTS**

In these reasoning tests, you are given a key figure. Under the key figure, four or five answer figures are given. You have to determine which of the choices contain all the elements needed to make the key figure.

**Illustrations**

In the following questions, which of the alternatives A, B, C and D will exactly make up the key figure given in the question?
1. [Diagram of a square with a circle inside]

ANSWER: D

2. [Diagram of a diamond with various shapes inside]

ANSWER: C

3. [Diagram of a grid with different shapes]

ANSWER: D

4. [Diagram of a complex figure with lines and shapes]

ANSWER: D
FOLDED VIEWS OF PAPER

In these tests of reasoning, a main figure is given, showing the folded view of a piece of paper. The answer choices show the same paper unfolded, along with the lines left by the folds. Your task is to choose the figure from the answer choices, which represents the original main figure, when unfolded.

Illustrations

**Direction:** Choose from the answer choices the figure which represents the correct view of the folded paper as it will look on unfolding.

1.

ANSWER: C
ANSWER: C

2.

ANSWER: A

3.

ANSWER: D

4.
NON-VERBAL REASONING TESTS

A         B         C         D

ANSWER: D

5.

\[ \text{Illustrations} \]

Directions: In the following questions, a design is given, marked key figure. Under the key figure various views are given. You have to determine which choice will be the exact view of the original key figure seen from the reverse side of the paper.

DECIPHERING OPPOSITE VIEW OF A DESIGN

In these type of reasoning tests, you are given a design drawn on a tracing paper (thin sheet). Your task is to determine what the design will look like when seen from the reverse side of the tracing paper.

ANSWER: A
2. Key Figure

ANSWER: B

3. Key Figures

ANSWER: A

4. Key Figure
MAKING A PERFECT SQUARE OR A GIVEN DESIGN FROM CUT-UP PIECES

In such reasoning question, you are given pieces of cardboard cut out in various shapes. You have to identify the pieces that can be used to make a perfect square or the odd figure in the group, as required in the question.

Illustrations

1. Find the odd figure out.

   A
   B
   C
   D
   E

   ANSWER: D    Figures A and C form a perfect square, as well as figure B and E. Figure D does not fit in with any of the figures to make a perfect square.
2. From the answer figures A, B, C, D and E a perfect square could be made by joining two of them. One of them does not fit in with any other figure to make a perfect square. Choose that figure as your answer.

**Figure A**

**Figure B**

**Figure C**

**Figure D**

**Figure E**

**ANSWER:** C Figure A and B will join to form a perfect square, as well as figures D and E. Figure C not fit with any other figure to form a square.

3. Look at the figure. Under it five other figures shapes marked A, B, C, D and E are given. You have to find out which of these figures can be used to form a rectangle when joined to the key figure.

**Key Figure**

**Figure A**

**Figure B**

**Figure C**

**Figure D**

**Figure E**

**ANSWER:** C

4. Which of the figures will form a perfect square when joined with the key figure?

**Key Figure**

**Figure F**

**Figure G**

**Figure H**

**Figure I**

**Figure J**

**Figure K**

**Figure L**

**Figure M**

**ANSWER:**
5. Direction: In the following set of blocks, marked A, B, C, D and E there are two cut-designs in each block. When the cut-designs are joined together, they form a perfect square. While in four blocks, relevant cut-designs form perfect squares; in one block they do not form a perfect square. Identify the block containing cut-designs that do not form a perfect square.

ANSWER: B

QUESTIONS DEALING WITH CUBES AND DICES

A cube or dice is a small cubical solid piece with six faces, which are either serially numbered 1 to 6 or otherwise distinguished using various symbols. Several types of questions on cubes/dices appear in competitive examinations. Some examples are given below.

Illustration I
1. Directions: Given below are four views of a cube. Each face is marked with certain symbols. The different views of the cubes are numbered 1 to 4. Carefully examine each view and answer the questions that follow.
1. In figure 1, which symbol will appear opposite to the square □?

   (a) ○   (b) △   (c) □   (d) □

2. In figure 2, which symbol will appear on the face opposite to the face containing a circle ○?

   (a) □   (b) ○   (c) □   (d) □

3. In figure 3, which symbol will appear on the face opposite to the face containing a double square □?

   (a) △   (b) △   (c) ○   (d) □

4. In figure 4, which symbol will appear on the face opposite to the face containing a triangle △?

   (a) □   (b) △   (c) ○   (d) □

**ANSWERS:**

1. (c) □   2. (b) ○   3. (d) □   4. (b) △

The open view of the cube shown below explains the various views of the above questions.

2. **Directions:** Four views of a cube are given below. Study each view and answer the questions given below them.
1. In figure 1, which symbol is below the square $\square$?
(a) $\bigcirc$  (b) $\blacksquare$  (c) $\odot$  (d) $\equiv$

2. In figure 2, which symbol is opposite the triangle $\triangle$?
(a) $\equiv$  (b) $\bigcirc$  (c) $\blacksquare$  (d) $\odot$

3. In figure 3, which symbol will be opposite to the circle $\bigcirc$?
(a) $\equiv$  (b) $\blacklozenge$  (c) $\lozenge$  (d) $\odot$

4. In figure 4, which symbol will appear opposite to the crossed circle $\odot$?
(a) $\square$  (b) $\blacksquare$  (c) $\triangle$  (d) $\bigcirc$

ANSWERS:
1. (b) $\blacksquare$  2. (d) $\odot$  3. (a) $\equiv$  4. (c) $\triangle$

The unfolded view of the cube is given below, to explain the answers.

Illustration II
In some reasoning questions on cubes and dices, various views of a cube/dice are given. On each face a number is given. In one cube, one face is left blank. You have to decide which number should appear in the blank face.

1. **Directions:** The following diagram depicts various views of a cube. Each face has some number, whereas in cube 4, one face is blank. From the answer choices, select the number that should come in the blank space.

![Diagram of cubes](image)

(a) 2  (b) 5  (c) 3  (d) 1

**ANSWER:** 3

By correlating the figures on various faces, the number on the blank face can be determined. The unfolded view of the cube will also help in explaining the answer.
2. Directions: Given below is a cubical block with designs on its faces viewed from different directions. From the answer choices given below, find the design on the blank face of the cube numbered 3.

![Cube Designs](image)

3. Directions: Two positions of a cubical block are given below, each face having a number of small triangles. In another position of the cube, if there is one triangle at the bottom, how many triangles will be there on the top face?

![Triangles](image)

**Answer:** B

Illustration III

In the questions given so far, the cubes usually have numbers 1 to 6 or some distinguishing symbols on each face. These are known as regular cubes. In some
cases, questions are based on ‘curious’ types of cubes. An example is given below.

**Directions:** The illustration below shows three views of the same (but rather ‘curious’) cube. Find out how many spots there are on the face directly opposite to the face of the third cube having six spots.

![Cube Views](image)

(A) Three  (B) Two  (C) One  (D) Four

**ANSWER: B**

The face directly opposite to the face with six spots has two spots. The cube is not a regular cube but a curious one.
The answer is explained by unfolding the cube as shown above.

Illustration IV
Another set of questions deals with cubes displaying various views. You have to answer questions based on the types of cubes involved in the set.

Direction: The cubes shown here have different symbols/markings on their faces. Each question has five views of cubes. You have to determine how many different cubes are involved in each case. Answers have to be marked as follows:

(A) In case only one cube is involved
(B) In case two cubes are involved
(C) In case three cubes are involved
(D) In case four cubes are involved
(E) In case five or more cubes are involved

1. ANSWER: A

2. ANSWER: B

3. ANSWER: B
Illustration V

In some other questions on cubes you are given different views of one or more cubes and you have to determine whether they are views of the same cube or of different cubes.

Directions: In the following figures there are different designs on each face of the three six-sided cubes. Carefully study the views, and mark your answer as follows:

(A) If these are views of three different cubes
(B) There are two similar cubes, and one is different
(C) These are views of the same cube, that is, there is only one cube
(D) The figures are not sufficient to determine the number of cubes
Illustration VI
In addition to the questions you have seen so far, there are certain other types of questions dealing with cubes which often appear in competitive examinations. Some examples are given below:

1. If the following figure is folded along the lines to form a cube, how many dots would be there on the face opposite the face having six dots?

   ![Cube Diagram]

   (A) 3  (B) 2  (C) 4  (D) 4

   ANSWER: B

2. If the cube given below is turned twice in the right hand direction (→), then the hidden numbers will be:

   ![Cube Diagram]

   5  3
   1  2
   6

   ANSWER: B
NON-VERBAL REASONING TESTS

(A) 1, 2, 5
(C) 4, 6, 3

(B) 2, 3, 5
(D) 4, 3, 1

ANSWER: B