



## DEPARTMENT OF EMPLOYMENT AND TRAINING

### TNPSC GROUP II A MAINS - UNIT II

**Course :** TNPSC Group II A Mains Material

**Subject :** General Intelligence and Reasoning

**Topic :** Square completion/ Mirror Images/ Embedded Images/ Visual Reasoning/ Figural Series/ Figural Classification

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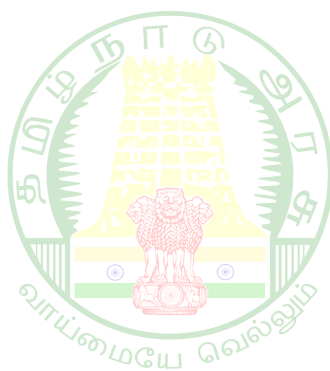
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**Director,  
Department of Employment and Training.**

[Square completion/ Mirror Images/ Embedded Images/](#)  
[Visual Reasoning/ Figural Series/ Figural Classification](#)

**Images Based problems:**

Image-based problems in reasoning are those that require the interpretation of visual information to answer questions. These problems often test your ability to identify patterns, relationships, and logical sequences based on images or diagrams.

**Types:**

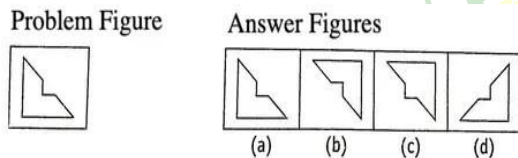
1. **Square Completion**
2. **Mirror Images**
3. **Embedded Figures**
4. **Visual Reasoning**
5. **Figural Series**
6. **Figural Classification**

**Square Completion:**

You are given a sequence of images with one or more missing, and you need to identify the next image in the series based on the pattern.

**Example:**

Choose the correct answer figure which will make a complete square on joining with the problem figure.



**Answer: c.**

**Explanation:**

By careful examination of all the answer figures, it is clear that option (c) is the correct answer figure which will make a complete square with the problem figure. This is shown as below

**Mirror Images:**

These involve determining what an object or figure will look like if reflected in a mirror.

**Example:**

What is the mirror image of the letter 'R'?

- a. R
- b. P
- c. Я
- d. Q

**Answer:** c) Я

**Explanation:**

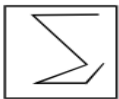
The mirror image of 'R' will appear as 'Я'

**Embedded Figures:**

You are shown a larger figure with an embedded smaller figure, and your task is to identify the correct position or orientation of the embedded figure.

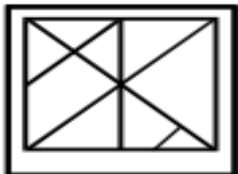
**Example:**

**Question Figure :** **Answer Figures :**



**Answer: 2**

**Explanation:**



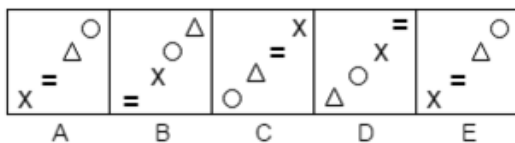
The question image is correctly embedded with the 2nd image.

**Visual Reasoning:**

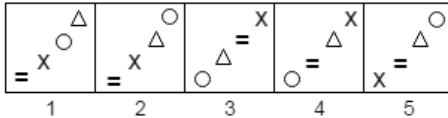
Visual Reasoning refers to the process of solving logical reasoning problems by interpreting and analyzing visual or graphical information. It involves converting abstract concepts or problems into visual representations to better understand relationships and patterns.

**Example:**

**Question fig:**



**Options fig:**



**Answer: 1**

**Explanation:**

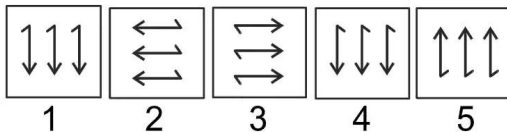
First, the signs in pairs (x, =) and (Δ, ○) interchange their positions and then both the pairs interchange their positions. So, the answer to figure 1 will continue the series.

**Figural Series:**

Figural series reasoning is a type of non-verbal reasoning that involves identifying patterns in a series of geometric figures. The goal is to predict the next shape in the pattern.

**Example:**

Which one is wrong?



**Answer: 4**

**Explanation:**

In Images first, second, third, and fifth, the half arrow is drawn to the right-hand side of the of the arrows at the other end of the line.

But in image 4, the half arrow is drawn to the left-hand side of the arrows at the other end of the line.

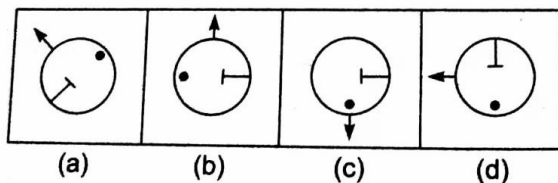
So, the fourth image differs from the other images, and the fourth image is the answer.

**Figural Classifications:**

Getting the odd one out from the given figures options is called figural classification. In such a question, the other three options have the same properties, and the other one is of another group.

**Example:**

1. Find the odd one out from the given images.



- a. b
- b. d
- c. a

d. c

**Answer: d.**

**Explanation:**

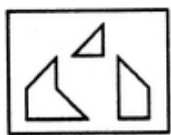
Apart from option c, The remaining images having the arrow mark are making  $90^\circ$  angle to the black dot. But option c does not satisfy the question.

To solve image-based reasoning problems, it is important to focus on:

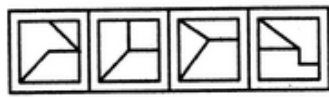
- Identifying patterns
- Analyzing symmetry or rotations
- Recognizing shapes or figures and their transformations
- Applying logic to deduce conclusions from visual data.

### Variety of Questions:

1. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).



(X)



(1)

(2)

(3)

(4)

- a. 1
- b. 2
- c. 3
- d. 4

**Answer: a. 1**

**Explanation:**

Fig 1 is formed by using the fig x.

2. Choose the correct answer figure which will make a complete square on joining with the problem figure.

Problem Figure



Answer Figures



(a)

(b)

(c)

(d)

- a. a

- b. b
- c. c
- d. d

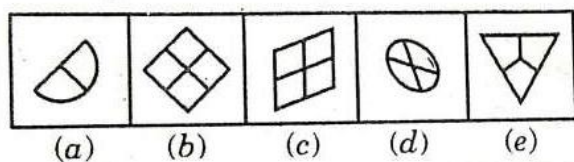
**Answer: a. a**

**Explanation:**

By careful examination of all the answer figures, it is clear that option (a) is the correct answer figure which will fill the blank portion and make a complete square with the problem figure. This is shown as below



3. Find the odd one out from the given images.



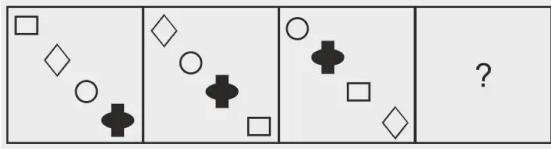
- a. a
- b. d
- c. e
- d. b

**Answer: c.e**

**Explanation:**

Except (e) image, all other images are divided into equal parts.

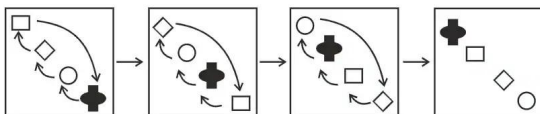
4. Select the figure that will replace the question mark (?) in the following figure series..



- a.
- b.
- c.
- d.

**Answer: c.**

**Explanation:**

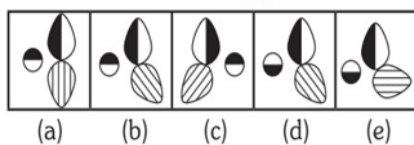


5. Find the correct mirror image.

Question Figure



Answer Figure



a. a



- b. b
- c. d
- d. e

**Answer: b. B**

**Explanation:**

we place the mirror vertically on the question figure's RHS. As a result, only figure (b) is the correct mirror image.

6. Find the mirror image if the mirror is placed on the right side.

**QUALITY**

- (1) QNALITY
- (2) YTILAUQ
- (3) YTIJAUD
- (4) YTIJAND

- a. 1
- b. 2
- c. 3
- d. 4

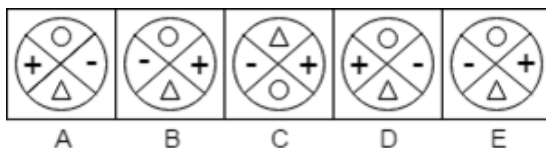
**Answer: c. 3**

**Explanation:**

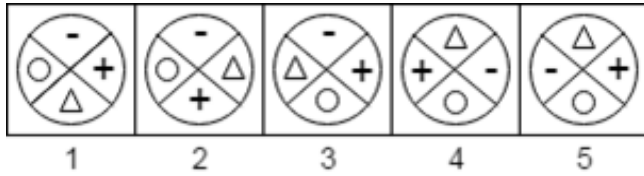
If the mirror is placed on the right side, the images should be right-left changes only. So, the answer is option c.

7. Observe the problem figures given and select one option from the answer figures which will continue the same pattern followed in the problem figures.

Question Fig:



Answer Fig:



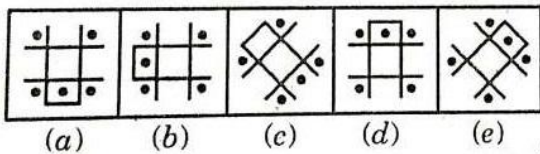
- a. 1
- b. 3
- c. 5
- d. 2

**Answer: c.5**

**Explanation:**

In figure B, the symbols interchange positions horizontally and in figure C, the symbols interchange positions vertically, then in figure D, symbols interchange positions both horizontally and vertically and so on. So, the answer figure 5 will continue the series.

8. Find the odd one.



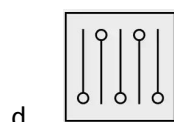
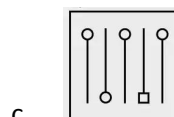
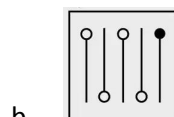
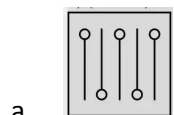
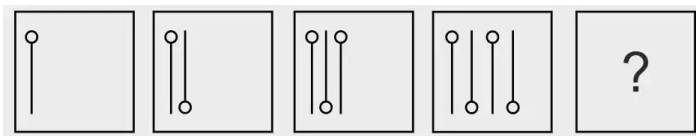
- a. a
- b. c
- c. d
- d. e

**Answer: b. C**

**Explanation:**

In all images, the black dot is placed in the rectangle box except image c. So, the answer is option b. c.

9. Select the figure from the given options that can replace the question mark (?) in the following series.



**Answer: a**

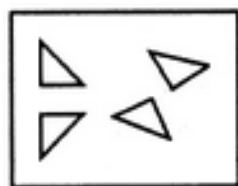
**Explanation:**

Here the pattern is as follows —

In each box one more line with a circle at the corner has been added. Each time the circle is added from the bottom to the top alternatively. The following figure will complete the given pattern —



10. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).



(X)



(1)

(2)

(3)

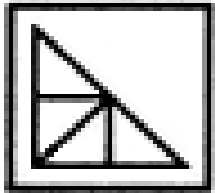
(4)

- a. 1
- b. 2
- c. 3
- d. 4

**Answer: c. 3**

**Explanation:**

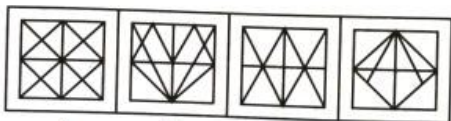
Figure 3 is formed by using the X.



11. Find the embedded image.



X



1

2

3

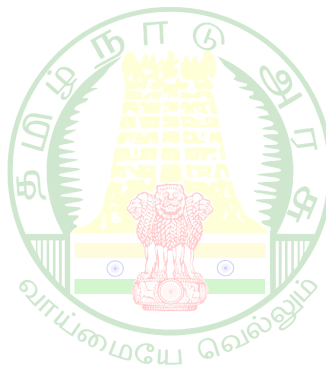
4

- a. 1
- b. 2
- c. 3
- d. 4

**Answer: c.3**

**Explanation:**

The given image X is embedded in the fig 3.



12. Find the correct mirror image if the mirror is placed on the right side.

DL9CG4728

(1) DL9CG4728

(2) 8274G09LD

(3) 8274G09LD

(4) 8274G09LD

- a. 1
- b. 2
- c. 3
- d. 4

**Answer: c.3**

**Explanation:**

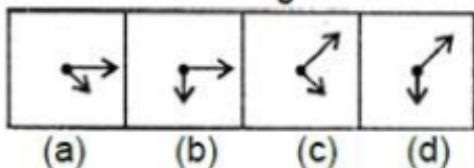
If the mirror is placed on the right side, the images should be right-left changes only. So, the answer is option c.

13. Observe the problem figures given and select one option from the answer figures which will continue the same pattern followed in the problem figures.

**Problem Figures:**



**Answer Figures**



- a. a
- b. b
- c. c
- d. d

**Answer: d.d**

**Explanation:**

The pattern is,

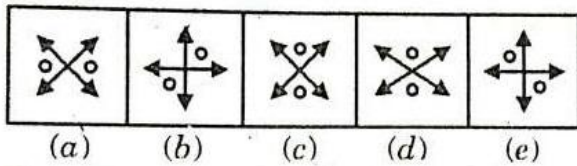
Consider the small arrow as the hour hand and the long arrow as the minute hand.

The hour hand in the problem figures makes 45 and 90 degree anti-clock wise rotation as a cycle.

The minute hand makes 135-degree clock-wise rotation from one box to the other.

Following the same pattern, the answer figure must be 4 in the answer figures. So, option d is the correct answer.

14. Find the odd one.



- a. a
- b. b
- c. c
- d. d

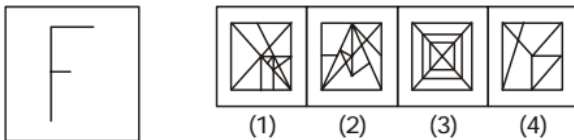
**Answer: d.d**

**Explanation:**

All images are rotating anticlockwise 45°. But option d does not rotate to any degree.

15. In which answer figure is the question figure embedded?

**Question Figure :** **Answer Figures :**



- a. 1
- b. 2
- c. 3
- d. 4

**Answer: b. 2**

**Explanation:**

The question fig embedded in 2nd fig. So the answer is option b.

**Practice questions:**

1. Select the answer figure in which the question figure is hidden.

**Question Figure : Answer Figures :**

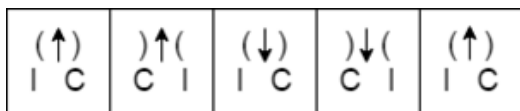


(1) (2) (3) (4)

- a. 1
- b. 2
- c. 3
- d. 4

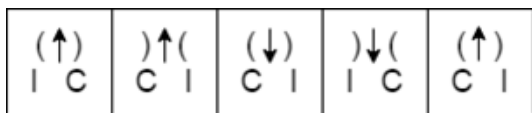
2. Observe the problem figures given and select one option from the answer figures which will continue the same pattern followed in the problem figures.

Question fig:



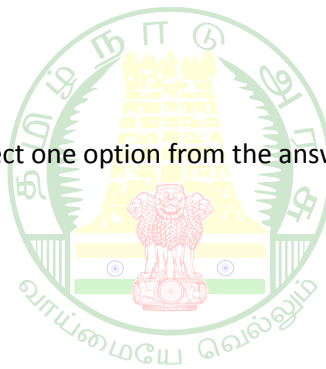
A B C D E

Answer Fig:

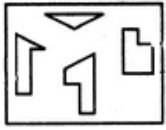


1 2 3 4 5

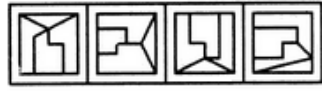
- a. 1
- b. 2
- c. 3
- d. 5



3. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).



(X)



(1)

(2)

(3)

(4)

- a. 1
- b. 2
- c. 3
- d. 4

4. Choose the alternative that closely resembles the mirror image of the given combination.

AN54WMG3

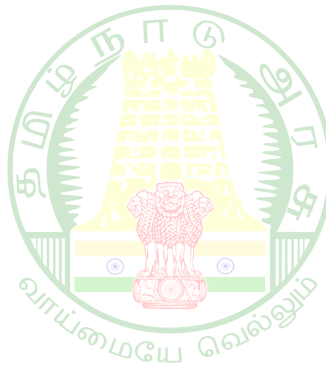
(1) 3GWM42NA

(2) 3GWM42NA

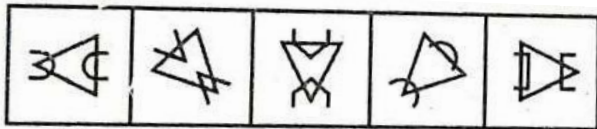
(3) 3GWM42NA

(4) 3GWM42NA

- a. 1
- b. 2
- c. 3
- d. 4



5. Find the odd one.



(a)

(b)

(c)

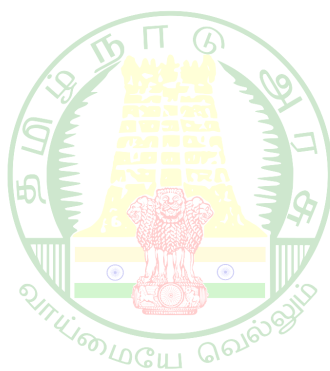
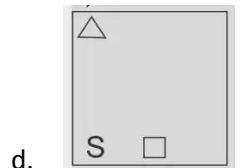
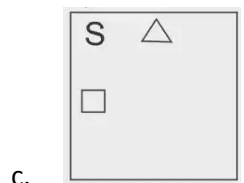
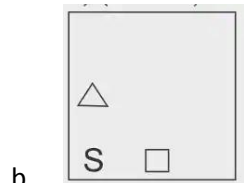
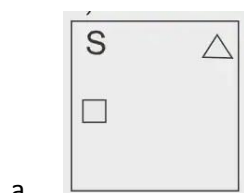
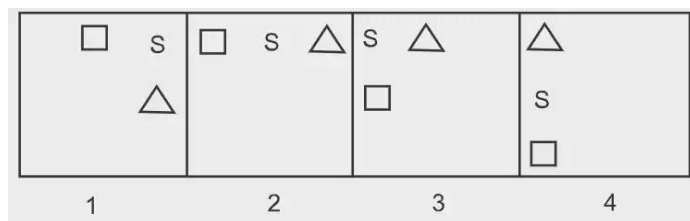
(d)

(e)

- a. a
- b. b
- c. c
- d. D



6. Which of the given figures when placed in the 5th position would continue the series that is established by the first four figures?



**Answers:**

Q.No	1	2	3	4	5	6
Answers	b	b	c	b	d	b