



Pi Academy

11+ Non-verbal Reasoning Nets and 3D shapes Paper 1

Instructions:

1. The time allowed is 18 minutes for 20 questions.
2. Each question carries 1 Mark.
3. Answers should be clearly marked in pencil on the provided answer sheet.
4. Example for each section is provided before the beginning of the section.
5. No Marks are lost for an incorrect answer.
6. If you have marked the wrong answer, erase it and mark the new one. Make sure that your final answer is clear.

Symbols used:



Go to the next
page.

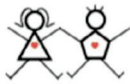


Do not turn the page
until told to do so.



Stop working and
await instructions.

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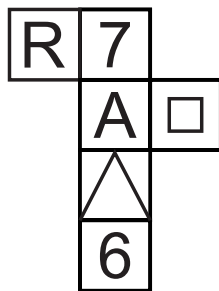


NETS AND 3D SHAPES (Which cube can be made?)

Instructions

Which cube can be made from the net given on the left?

Example



A



B



C



D



E

Answer :

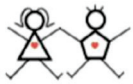
B

B

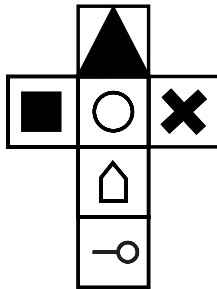
Explanation :

- ❖ **Option A and E are ruled out** because the face with 7 must be opposite to the face with the triangle.
- ❖ **Option C is ruled out** because the top of the triangle must be pointing towards the lower part of A.
- ❖ **Option D is ruled out** because the face with square must be opposite to the face with R.

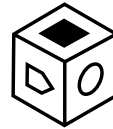


**NETS AND 3D SHAPES** (Which cube can be made?)

1.



A



B



C

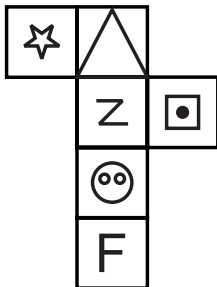


D



E

2.



A



B



C

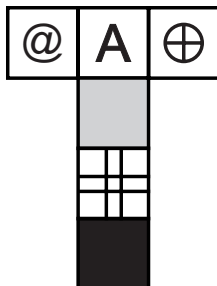


D

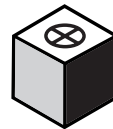


E

3.



A



B



C

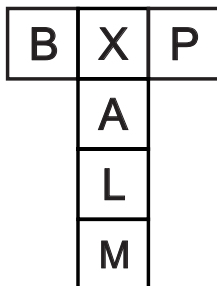


D



E

4.



A



B



C

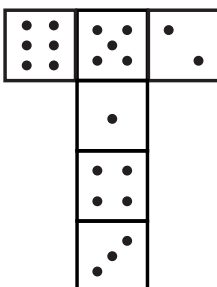


D



E

5.



A



B



C

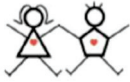


D



E



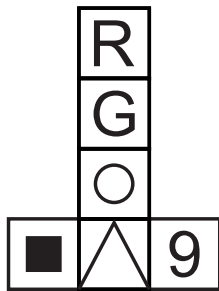


NETS AND 3D SHAPES (Which cube can not be made?)

Instructions

Which cube cannot be made from the net given on the left?

Example



A



B



C



D



E

Answer :

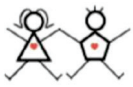
C

C

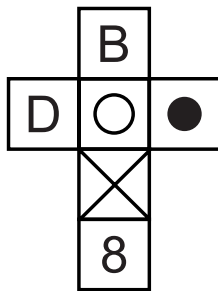
Explanation :

- ❖ **Option C can not be made** because the face with G must be opposite to the face with triangle.



**NETS AND 3D SHAPES** (Which cube can not be made?)

6.



A



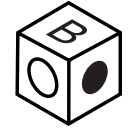
B



C

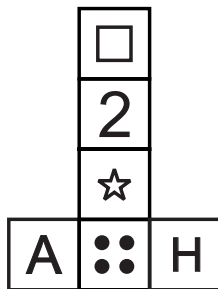


D



E

7.



A



B



C

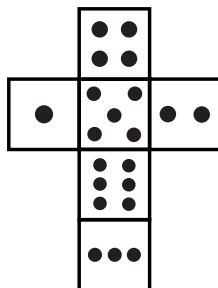


D



E

8.



A



B



C

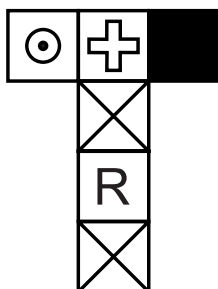


D



E

9.



A



B



C

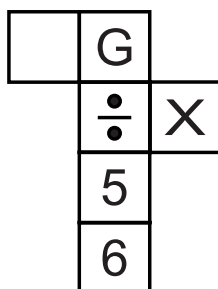


D



E

10.



A



B



C

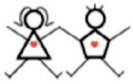


D



E



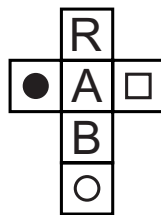


NETS AND 3D SHAPES (Which Net can make the cube?)

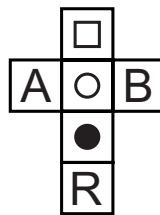
Instructions

Which net on the right makes the cube on the left?

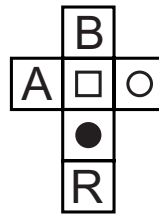
Example



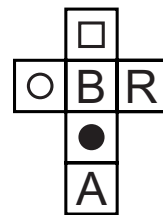
A



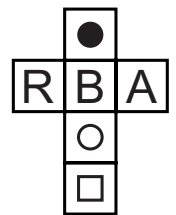
B



C



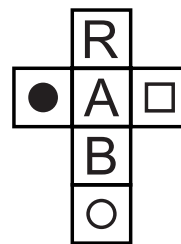
D



E

Answer :

A

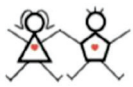


A

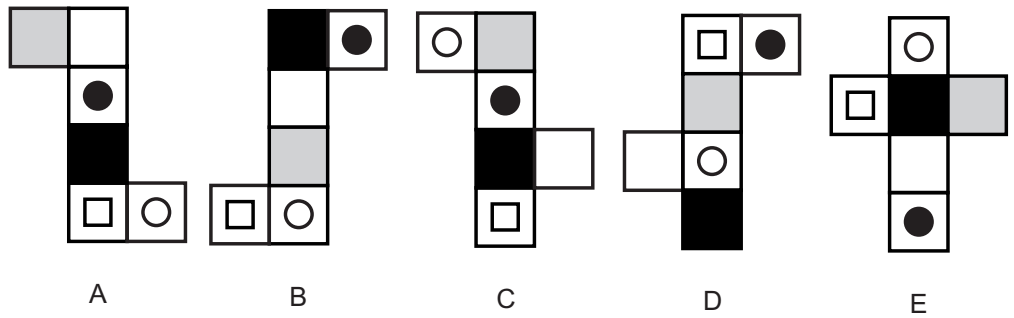
Explanation :

- ❖ **Option B and D are ruled out** because the face with A must not be opposite to the face with B.
- ❖ **Option C is ruled out** because the bottom part of B should not be aligned with the square.
- ❖ **Option E is ruled out** because the face with square must not be opposite to the face with B.

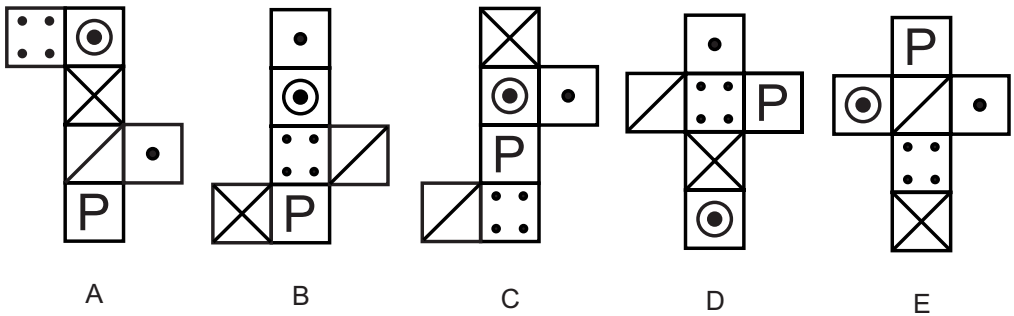


**NETS AND 3D SHAPES** (Which Net can make the cube?)

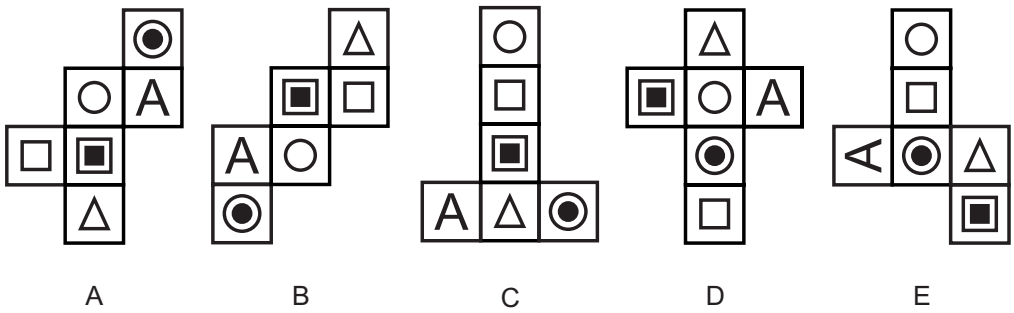
11.



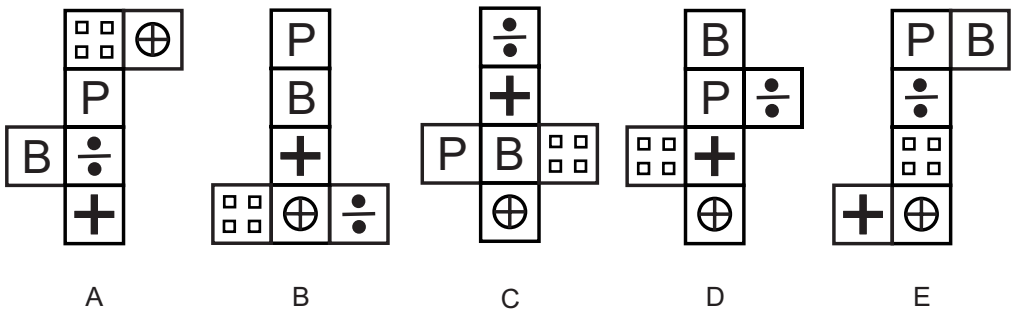
12.



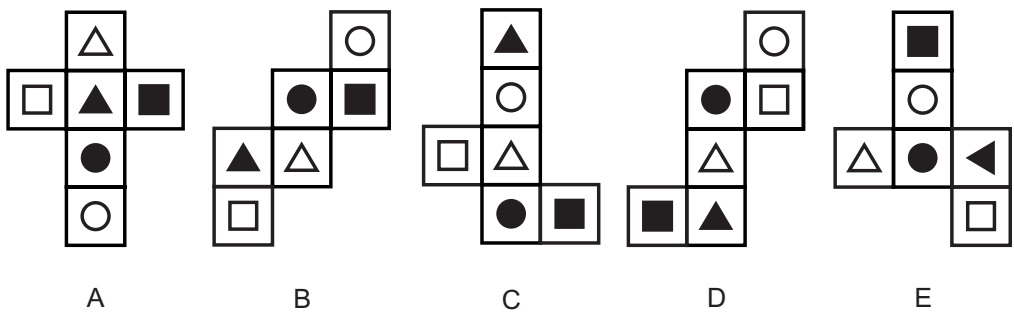
13.



14.



15.



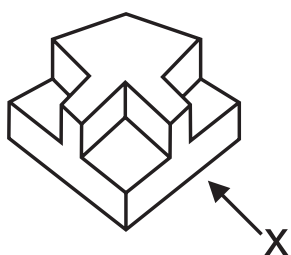


3D SHAPES

Instructions

Work out which option is the 2-D view of the given 3-D shape when you look from point X?

Example



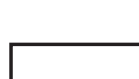
A



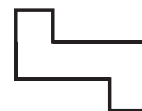
B



C



D



E

Answer :

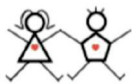
A

A

Explanation :

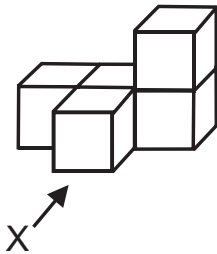
There should be two horizontal blocks with two lines at the centre of the upper block.





3D SHAPES

16.



A



B



C

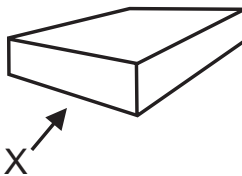


D



E

17.



A



B



C

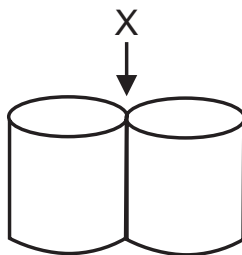


D



E

18.



A



B



C

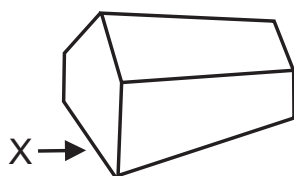


D



E

19.



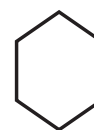
A



B



C

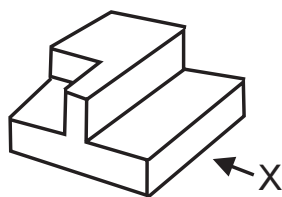


D

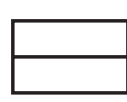


E

20.



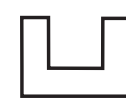
A



B



C



D



E





Name: _____

Date: _____

ANSWER MARKING SHEET**Example**1 [A] [~~B~~] [C] [D] [E]**Questions**

1 [A] [B] [C] [D] [E]

2 [A] [B] [C] [D] [E]

3 [A] [B] [C] [D] [E]

4 [A] [B] [C] [D] [E]

5 [A] [B] [C] [D] [E]

6 [A] [B] [C] [D] [E]

7 [A] [B] [C] [D] [E]

8 [A] [B] [C] [D] [E]

9 [A] [B] [C] [D] [E]

10 [A] [B] [C] [D] [E]

11 [A] [B] [C] [D] [E]

12 [A] [B] [C] [D] [E]

13 [A] [B] [C] [D] [E]

14 [A] [B] [C] [D] [E]

15 [A] [B] [C] [D] [E]

16 [A] [B] [C] [D] [E]

17 [A] [B] [C] [D] [E]

18 [A] [B] [C] [D] [E]

19 [A] [B] [C] [D] [E]

20 [A] [B] [C] [D] [E]

For Parents use only

Paper name: _____

Time taken: _____

Marks Scored: _____

Comments:

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