

Toy Joy

All 11 questions from the CBSE CT Handbook, each with think time, a hint and an animated step-by-step solution

4

Abstraction

4

Decomposition

1

Pattern recognition

1

Algorithmic thinking

1

Logical reasoning

Ready-to-teach smartboard lessons, one click at a time.

How each question runs

1

Think

Students try alone for 60 seconds and write their answer in the handbook.

2

Hint

Show the hint. Give 1 more minute. Ask 2–3 children with different answers to explain.

3

Solve

Click once per step. Ask the class to predict each step before you click.

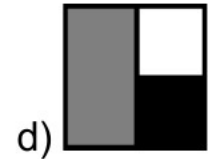
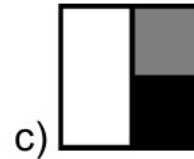
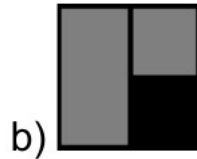
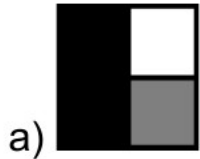
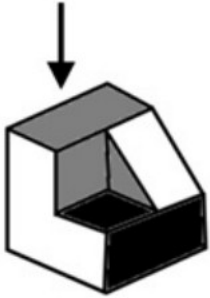
4

Discuss

Use the common mistake and extension in the notes.

The process of thinking matters more than the correct answer. Let children make mistakes, share strategies and explain their reasoning (CBSE Circular Acad-18/2026).

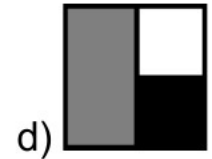
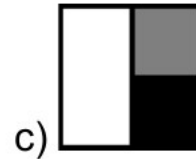
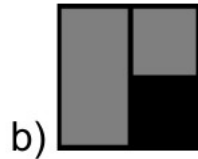
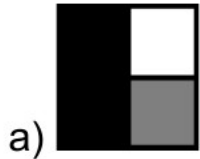
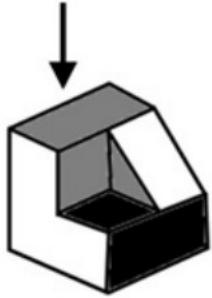
Which of the following options represents the top view of the object given below?



60s

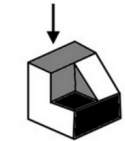
Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

Which of the following options represents the top view of the object given below?

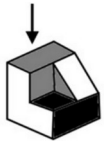


Hint: Be a bird: look straight down along the arrow. What colour is the big flat top? Which options can you cross out first?

Which option is the TOP view?



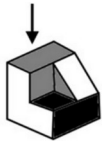
Which option is the TOP view?



1

From the top, the big flat part is GREY. Cross out a and c.

Which option is the TOP view?



1

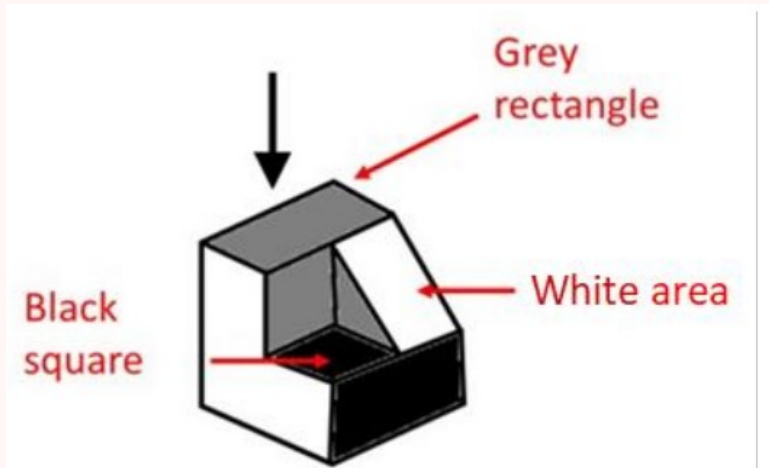
From the top, the big flat part is GREY. Cross out a and c.

2

Looking into the dip, you see a WHITE area and a BLACK square.

Which option is the TOP view?

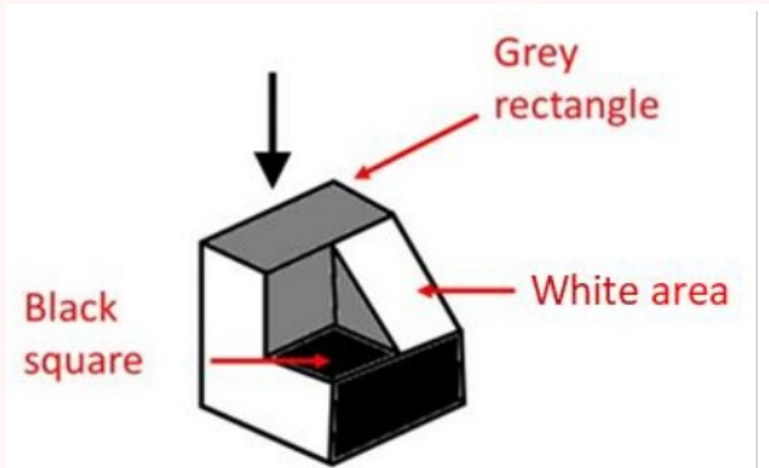
From the Teacher Handbook



- 1 From the top, the big flat part is GREY. Cross out a and c.
- 2 Looking into the dip, you see a WHITE area and a BLACK square.
- 3 Only option d shows grey, white and black in the right places.

Which option is the TOP view?

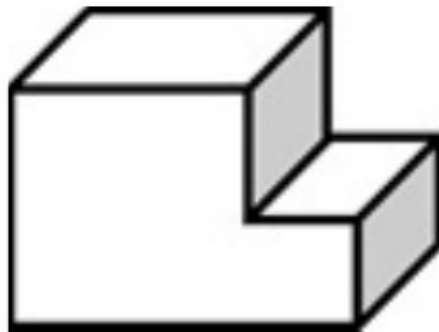
From the Teacher Handbook



- 1 From the top, the big flat part is GREY. Cross out a and c.
- 2 Looking into the dip, you see a WHITE area and a BLACK square.
- 3 Only option d shows grey, white and black in the right places.

Answer: **d**

Count the number of surfaces (faces) in the given solid.



a) 6

b) 7

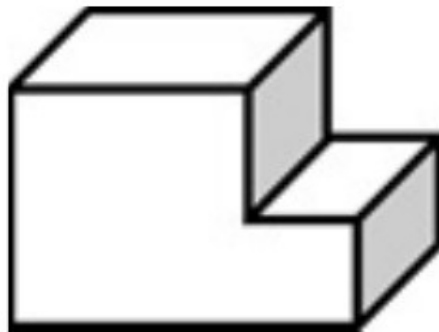
c) 8

d) 9

60s

Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

Count the number of surfaces (faces) in the given solid.



a) 6

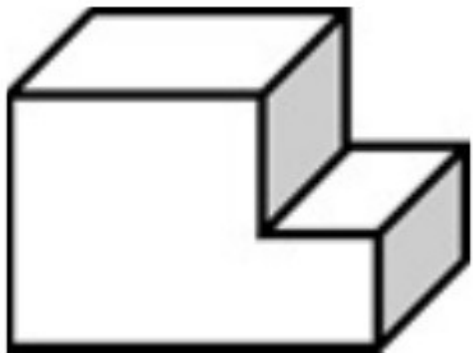
b) 7

c) 8

d) 9

Hint: Count only the faces you can SEE first. Then think about the faces hiding at the back, on the left and at the bottom.

How many faces does this solid have?



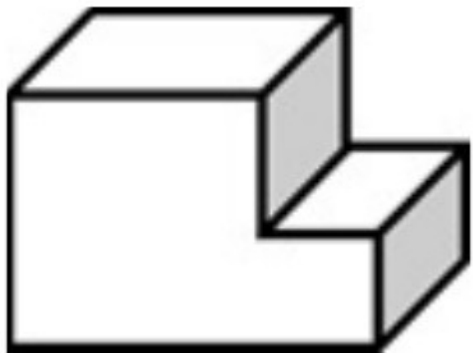
a) 6

b) 7

c) 8

d) 9

How many faces does this solid have?



a) 6

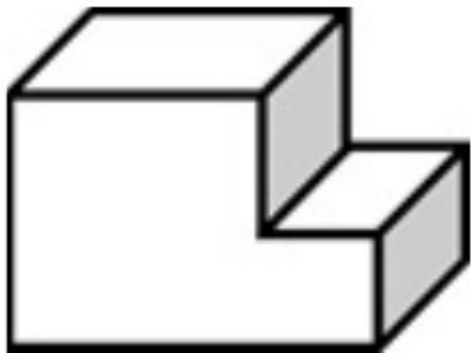
b) 7

c) 8

d) 9

1 Faces you can see from the front: 5.

How many faces does this solid have?



a) 6

b) 7

c) 8

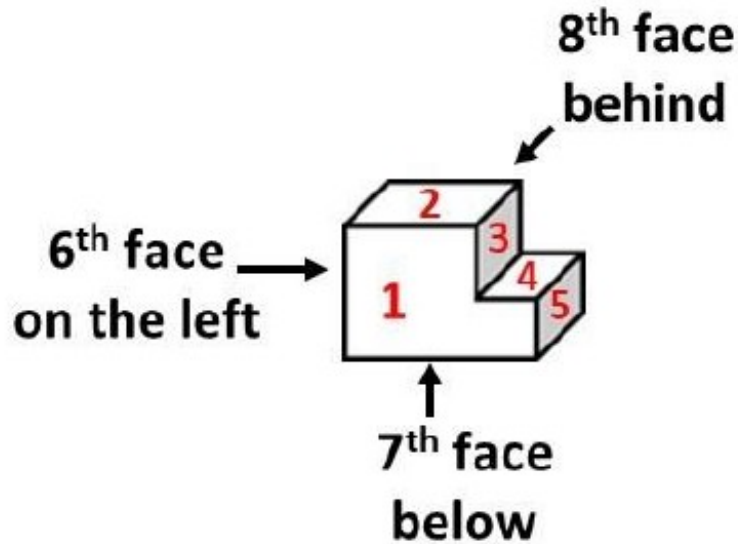
d) 9

1 Faces you can see from the front: 5.

2 Hidden faces: 1 on the left, 1 at the bottom, 1 at the back = 3.

How many faces does this solid have?

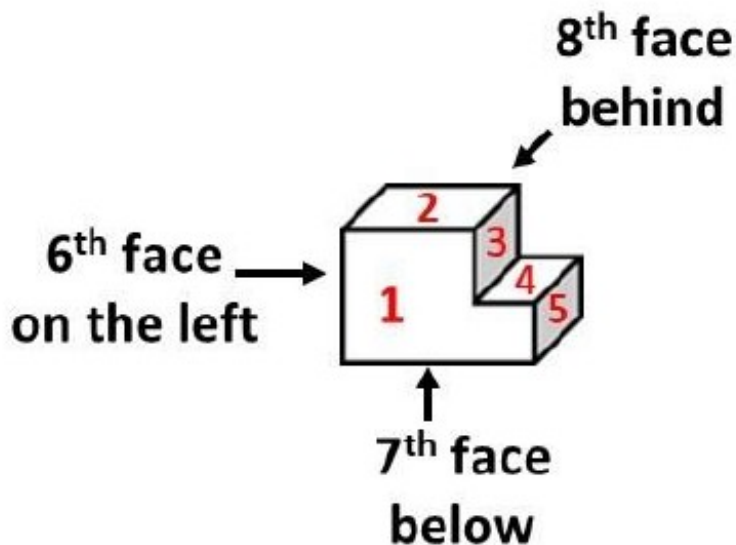
From the Teacher Handbook



- 1 Faces you can see from the front: 5.
- 2 Hidden faces: 1 on the left, 1 at the bottom, 1 at the back = 3.
- 3 $5 + 3 = 8$ faces.

How many faces does this solid have?

From the Teacher Handbook



- 1 Faces you can see from the front: 5.
- 2 Hidden faces: 1 on the left, 1 at the bottom, 1 at the back = 3.
- 3 $5 + 3 = 8$ faces.

Answer: c) 8

The given shapes are to be placed in the buckets. Shapes with a number of edges greater than 5 are kept in a yellow bucket while the others are kept in the white bucket. Out of the shapes in the yellow bucket, how many have EXACTLY 6 edges?



a) 2

b) 3

c) 4

d) 5

60s

Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

The given shapes are to be placed in the buckets. Shapes with a number of edges greater than 5 are kept in a yellow bucket while the others are kept in the white bucket. Out of the shapes in the yellow bucket, how many have EXACTLY 6 edges?



a) 2

b) 3

c) 4

d) 5

Hint: Two steps. Step 1: which shapes have MORE than 5 edges (6 or more)? Step 2: from only those, count the shapes with exactly 6.

Yellow bucket: how many shapes have EXACTLY 6 edges?



a) 2

b) 3

c) 4

d) 5

Yellow bucket: how many shapes have EXACTLY 6 edges?



a) 2

b) 3

c) 4

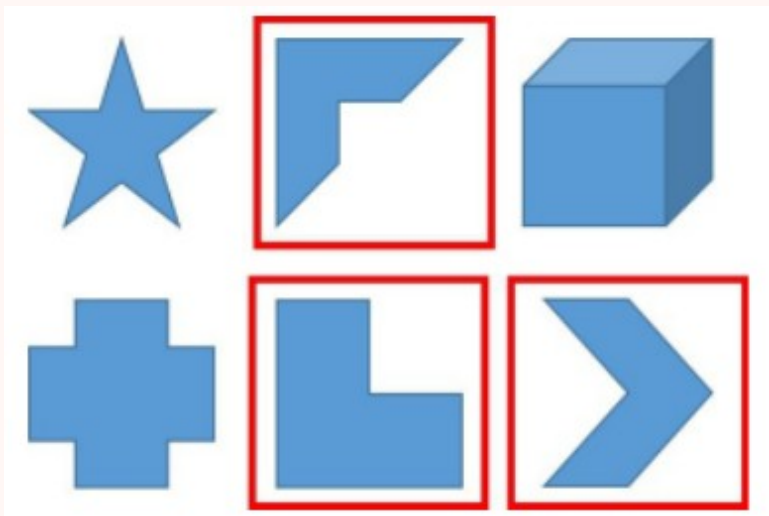
d) 5

1

Step 1, sort: count the edges of each shape. 6 shapes have more than 5 edges and go in the yellow bucket.

Yellow bucket: how many shapes have EXACTLY 6 edges?

From the Teacher Handbook



1

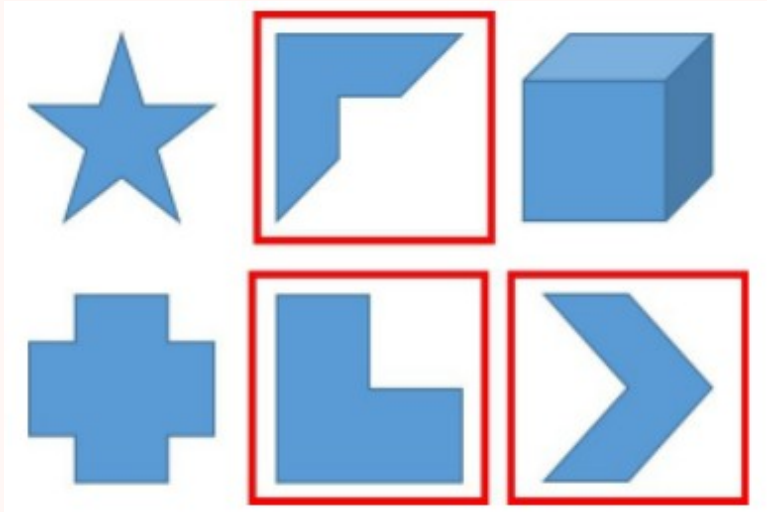
Step 1, sort: count the edges of each shape. 6 shapes have more than 5 edges and go in the yellow bucket.

2

Step 2, count: among those 6, exactly 3 have 6 edges (marked in red).

Yellow bucket: how many shapes have EXACTLY 6 edges?

From the Teacher Handbook



1

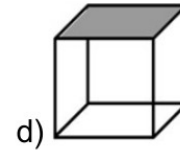
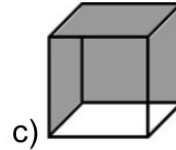
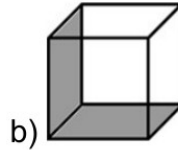
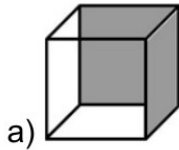
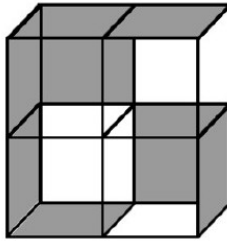
Step 1, sort: count the edges of each shape. 6 shapes have more than 5 edges and go in the yellow bucket.

2

Step 2, count: among those 6, exactly 3 have 6 edges (marked in red).

Answer: **b) 3**

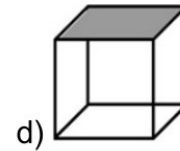
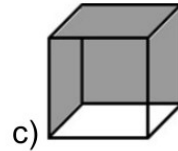
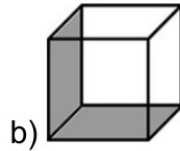
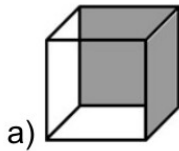
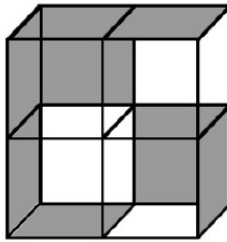
Given below is a large box consisting of four smaller transparent boxes with some sides coloured. Which of the boxes shown in the options is not a part of the larger box in the question image? Note: Rotation of option images is not allowed



60s

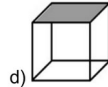
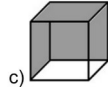
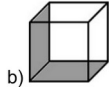
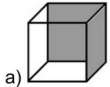
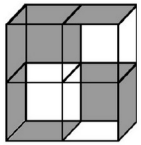
Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

Given below is a large box consisting of four smaller transparent boxes with some sides coloured. Which of the boxes shown in the options is not a part of the larger box in the question image? Note: Rotation of option images is not allowed



Hint: Take one option at a time. Which faces are grey: top, back, left, bottom? Find a small box with exactly those grey faces. No turning!

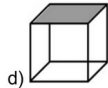
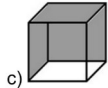
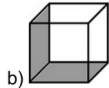
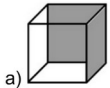
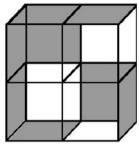
Which small box is NOT part of the big box?



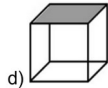
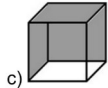
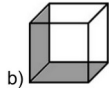
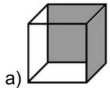
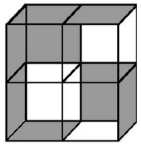
Which small box is NOT part of the big box?

1

Check each option face by face: top, back, left, bottom.



Which small box is NOT part of the big box?



1

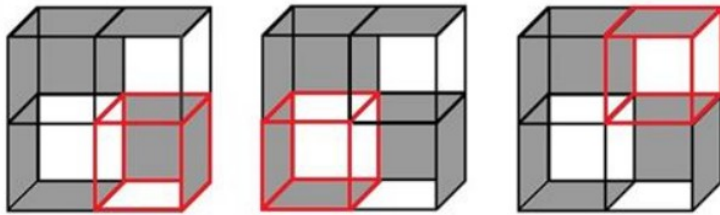
Check each option face by face: top, back, left, bottom.

2

Options a, b and d each match one of the four small boxes.

Which small box is NOT part of the big box?

From the Teacher Handbook



Option a

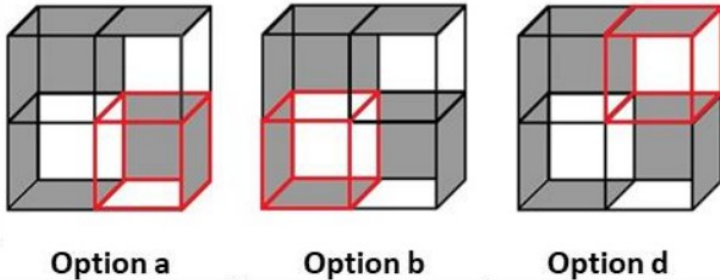
Option b

Option d

- 1 Check each option face by face: top, back, left, bottom.
- 2 Options a, b and d each match one of the four small boxes.
- 3 No small box has its top, back AND left sides grey, so c is not part of it.

Which small box is NOT part of the big box?

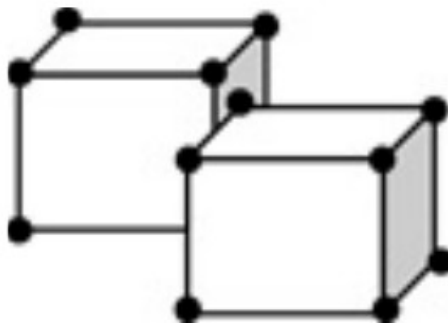
From the Teacher Handbook



- 1 Check each option face by face: top, back, left, bottom.
- 2 Options a, b and d each match one of the four small boxes.
- 3 No small box has its top, back AND left sides grey, so c is not part of it.

Answer: **c**

If there is a dot on each corner of the cubes below, then how many dots are hidden?



a) 3

b) 4

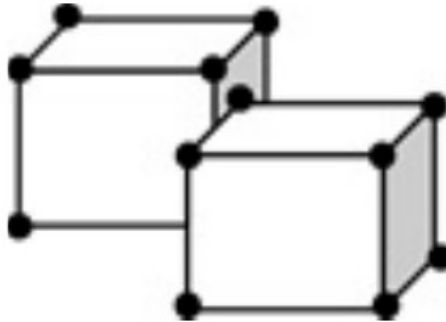
c) 5

d) 6

60s

Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

If there is a dot on each corner of the cubes below, then how many dots are hidden?



a) 3

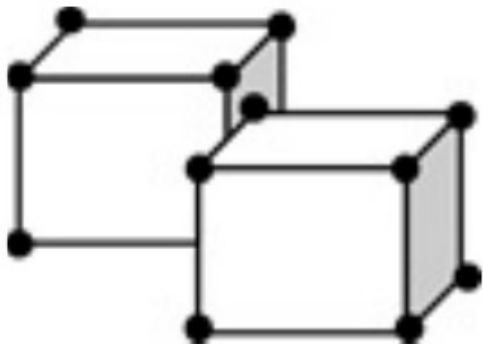
b) 4

c) 5

d) 6

Hint: How many corners does ONE cube have? So how many dots are on TWO cubes? Now count only the dots you can see.

How many corner dots are hidden?



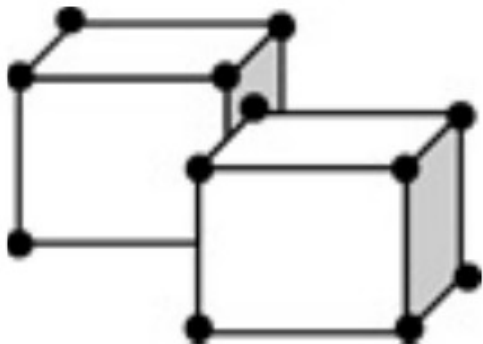
a) 3

b) 4

c) 5

d) 6

How many corner dots are hidden?



1

1 cube has 8 corners, so 2 cubes have $8 + 8 = 16$ dots.

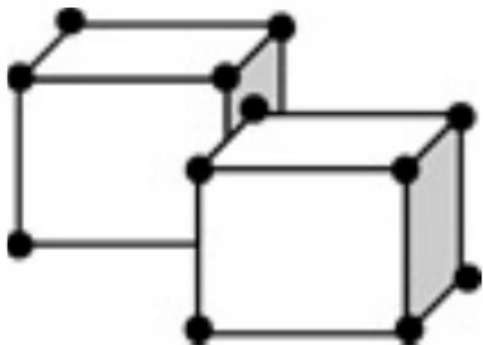
a) 3

b) 4

c) 5

d) 6

How many corner dots are hidden?



a) 3

b) 4

c) 5

d) 6

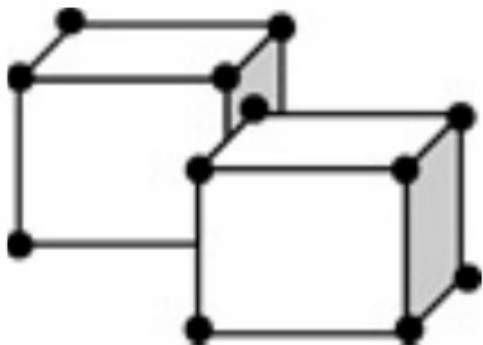
1

1 cube has 8 corners, so 2 cubes have $8 + 8 = 16$ dots.

2

Dots you can see in the picture: 12.

How many corner dots are hidden?



a) 3

b) 4

c) 5

d) 6

1

1 cube has 8 corners, so 2 cubes have $8 + 8 = 16$ dots.

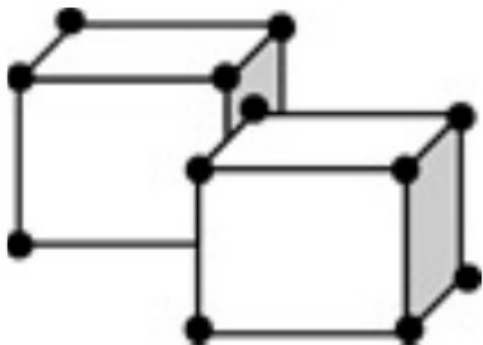
2

Dots you can see in the picture: 12.

3

Hidden dots = $16 - 12 = 4$.

How many corner dots are hidden?



a) 3

b) 4

c) 5

d) 6

1

1 cube has 8 corners, so 2 cubes have $8 + 8 = 16$ dots.

2

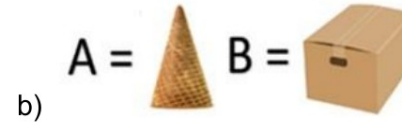
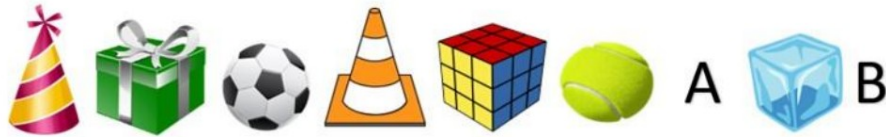
Dots you can see in the picture: 12.

3

Hidden dots = $16 - 12 = 4$.

Answer: **b) 4**

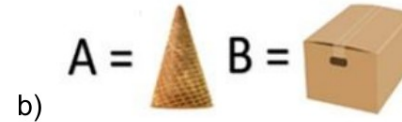
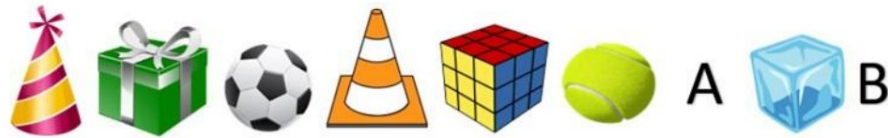
What will come in place of 'A' and 'B'?



60s

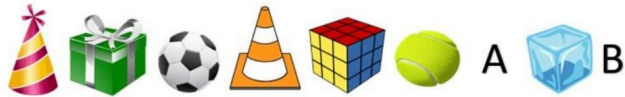
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What will come in place of 'A' and 'B'?

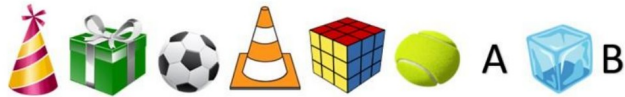


Hint: Forget the colours and names. What SHAPE is each object: cap, gift box, ball? What repeats?

What comes in place of A and B?



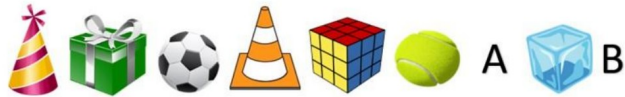
What comes in place of A and B?



1

Party cap = cone, gift box = cube, football = sphere.

What comes in place of A and B?



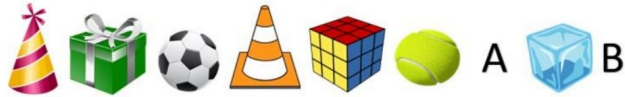
1

Party cap = cone, gift box = cube, football = sphere.

2

The pattern repeats: cone → cube → sphere → cone → cube → sphere...

What comes in place of A and B?

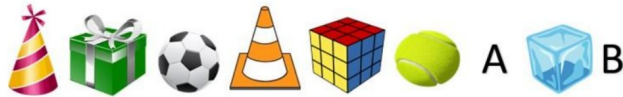


1 Party cap = cone, gift box = cube, football = sphere.

2 The pattern repeats: cone → cube → sphere → cone → cube → sphere...

3 After the ball comes A = a cone, then the ice cube (cube), then B = a sphere.

What comes in place of A and B?



1

Party cap = cone, gift box = cube, football = sphere.

2

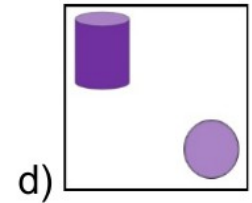
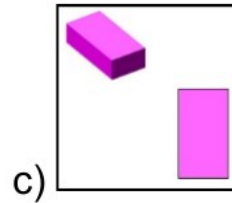
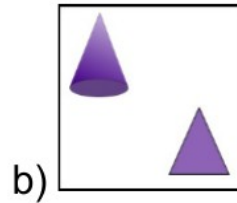
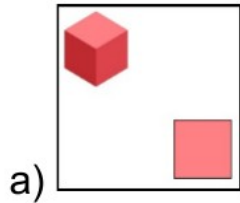
The pattern repeats: cone → cube → sphere → cone → cube → sphere...

3

After the ball comes A = a cone, then the ice cube (cube), then B = a sphere.

Answer: **c**

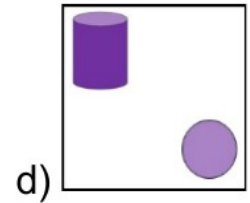
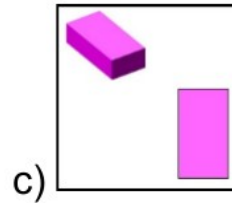
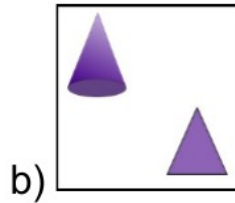
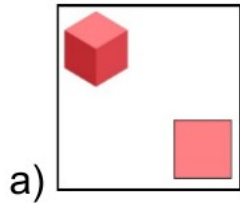
Find the odd one out.



60s

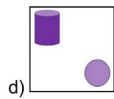
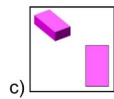
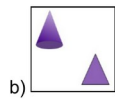
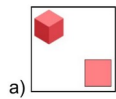
Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

Find the odd one out.

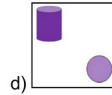
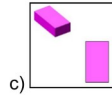
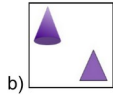
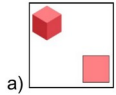


Hint: In each box there is a solid and a flat shape. How is the flat shape connected to the solid? Is it true for every box?

Find the odd one out



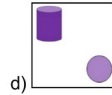
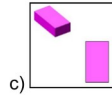
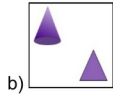
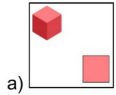
Find the odd one out



1

Cube → square, cuboid → rectangle, cylinder → circle: each flat shape is the TOP view.

Find the odd one out



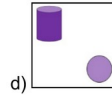
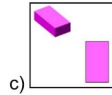
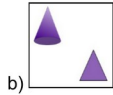
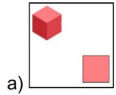
1

Cube → square, cuboid → rectangle, cylinder → circle: each flat shape is the TOP view.

2

In box b, a cone seen from the top is a circle, NOT a triangle.

Find the odd one out



1

Cube → square, cuboid → rectangle, cylinder → circle: each flat shape is the TOP view.

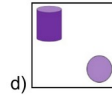
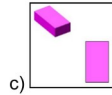
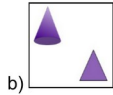
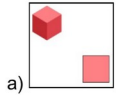
2

In box b, a cone seen from the top is a circle, NOT a triangle.

3

So b does not follow the rule.

Find the odd one out



1

Cube → square, cuboid → rectangle, cylinder → circle: each flat shape is the TOP view.

2

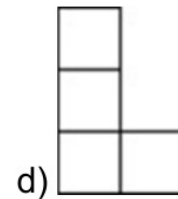
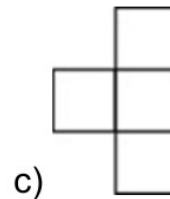
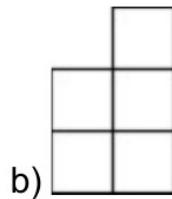
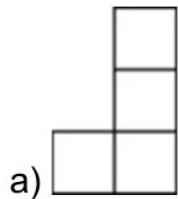
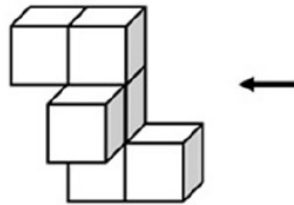
In box b, a cone seen from the top is a circle, NOT a triangle.

3

So b does not follow the rule.

Answer: **b**

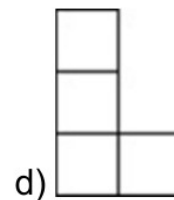
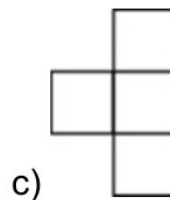
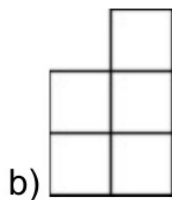
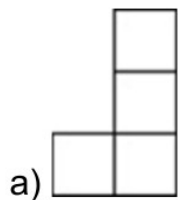
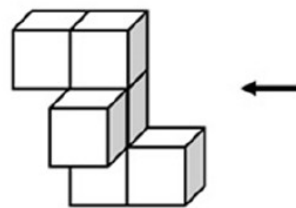
If the given solid is viewed from the direction of the arrow, what will it look like?
Note: You cannot rotate the question or option images



60s

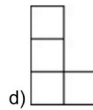
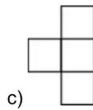
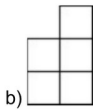
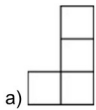
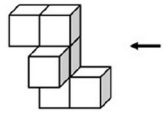
Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

If the given solid is viewed from the direction of the arrow, what will it look like?
Note: You cannot rotate the question or option images



Hint: Stand where the arrow is. How many blocks tall is the solid? Does the extra block stick out to your left or your right?

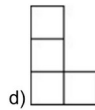
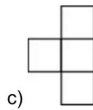
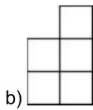
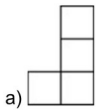
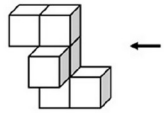
What does the solid look like from the arrow?



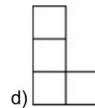
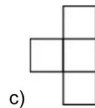
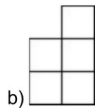
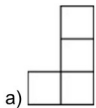
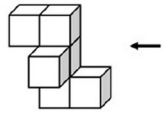
What does the solid look like from the arrow?

1

From the arrow side you see 4 blocks.



What does the solid look like from the arrow?

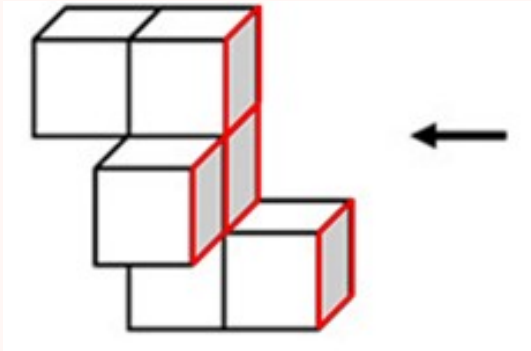


1 From the arrow side you see 4 blocks.

2 3 blocks are stacked on top of each other.

What does the solid look like from the arrow?

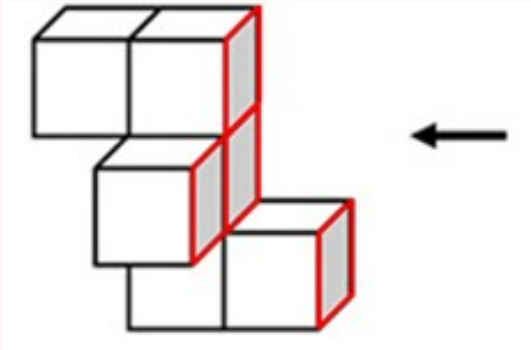
From the Teacher Handbook



- 1 From the arrow side you see 4 blocks.
- 2 3 blocks are stacked on top of each other.
- 3 The 4th block sticks out to the LEFT, next to the middle block, so the answer is c.

What does the solid look like from the arrow?

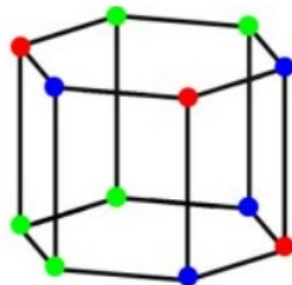
From the Teacher Handbook



- 1 From the arrow side you see 4 blocks.
- 2 3 blocks are stacked on top of each other.
- 3 The 4th block sticks out to the LEFT, next to the middle block, so the answer is c.

Answer: **c**

How many edges of the solid shown below have the same-coloured dots on both of their corners?



a) 2

b) 3

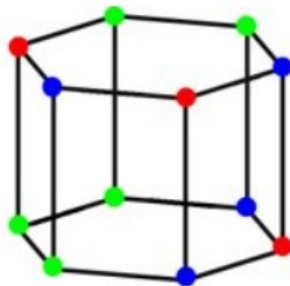
c) 4

d) 5

60s

Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

How many edges of the solid shown below have the same-coloured dots on both of their corners?



a) 2

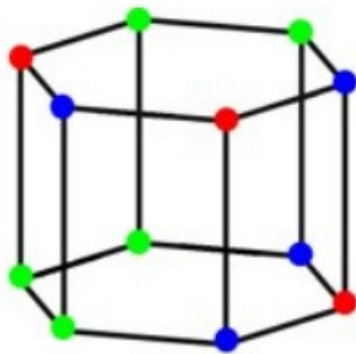
b) 3

c) 4

d) 5

Hint: Be systematic: check the top ring of edges, then the bottom ring, then the standing edges. Tick an edge when both dots match.

Edges with the SAME colour dot at both ends



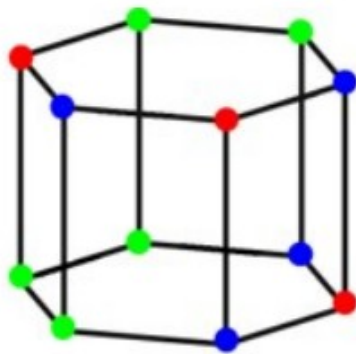
a) 2

b) 3

c) 4

d) 5

Edges with the SAME colour dot at both ends



a) 2

b) 3

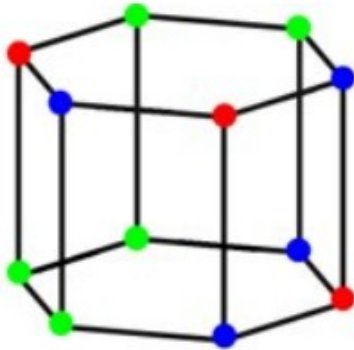
c) 4

d) 5

1

Go edge by edge in a fixed order: top ring, bottom ring, then the standing edges.

Edges with the SAME colour dot at both ends



a) 2

b) 3

c) 4

d) 5

1

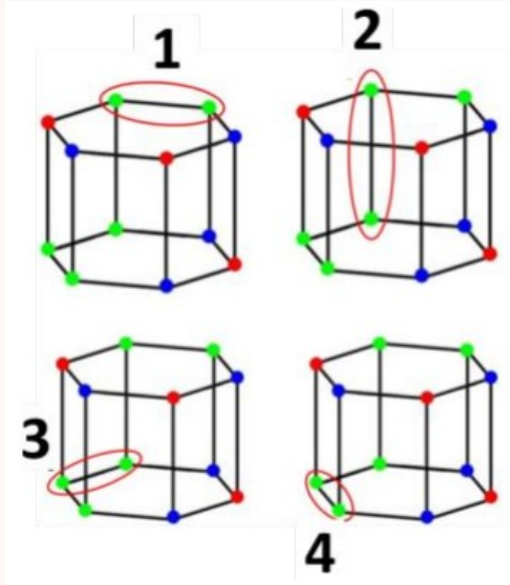
Go edge by edge in a fixed order: top ring, bottom ring, then the standing edges.

2

Tick every edge whose two corner dots have the same colour (marked 1-4).

Edges with the SAME colour dot at both ends

From the Teacher Handbook



1

Go edge by edge in a fixed order: top ring, bottom ring, then the standing edges.

2

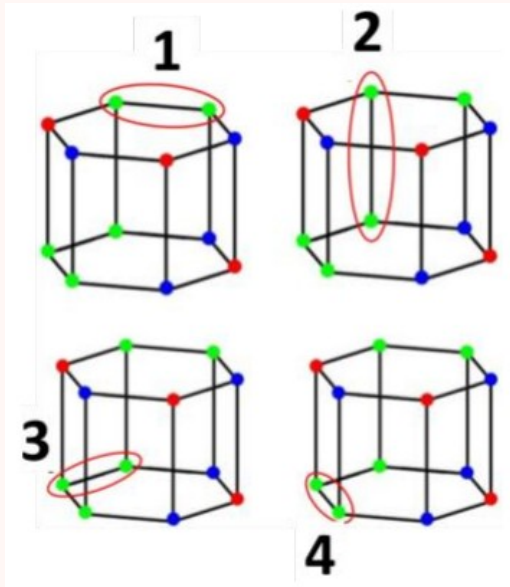
Tick every edge whose two corner dots have the same colour (marked 1-4).

3

Total = 4 edges.

Edges with the SAME colour dot at both ends

From the Teacher Handbook



1

Go edge by edge in a fixed order: top ring, bottom ring, then the standing edges.

2

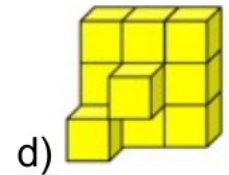
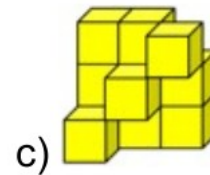
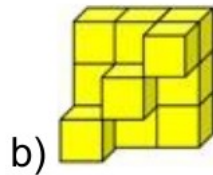
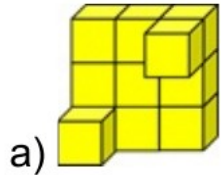
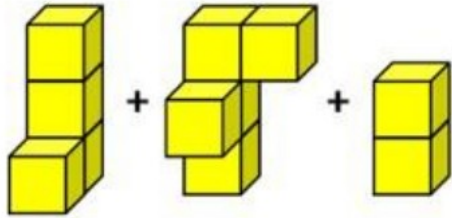
Tick every edge whose two corner dots have the same colour (marked 1-4).

3

Total = 4 edges.

Answer: c) 4

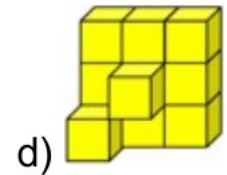
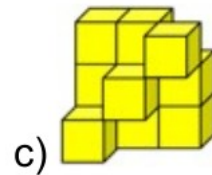
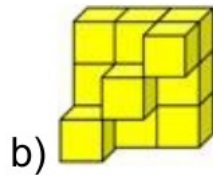
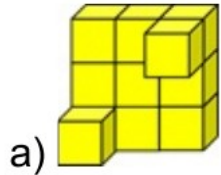
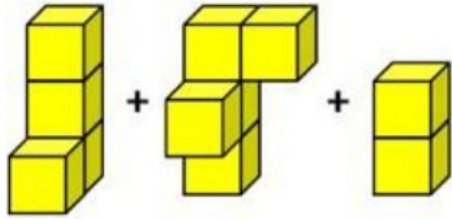
Which of the following options can be formed by combining the shapes given below?



60s

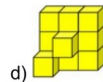
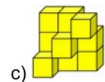
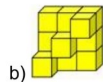
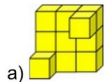
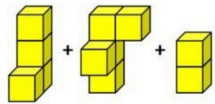
Think on your own first. Write your answer in your handbook. Then tell your partner HOW you found it.

Which of the following options can be formed by combining the shapes given below?



Hint: Join the first two shapes in your head. Which options still match? Then add the third shape.

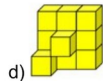
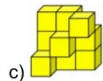
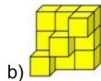
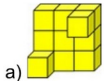
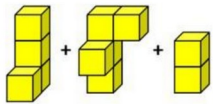
Which option can the three shapes make?



Which option can the three shapes make?

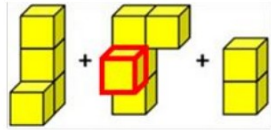
1

Shapes 1 + 2 together: only b and d match so far (a and c have a missing block).

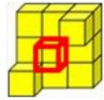


Which option can the three shapes make?

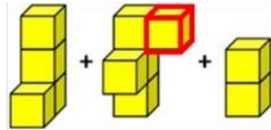
From the Teacher Handbook



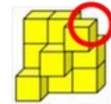
Question Image



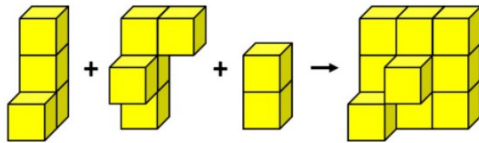
Option a



Question Image



Option c



1

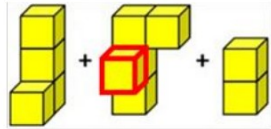
Shapes 1 + 2 together: only b and d match so far (a and c have a missing block).

2

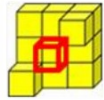
Add shape 3 (the 2-block tower). The result matches option d.

Which option can the three shapes make?

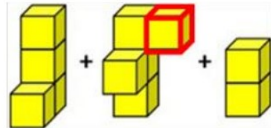
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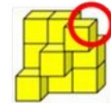
Question Image



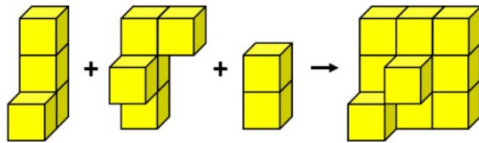
Option a



Question Image



Option c



1

Shapes 1 + 2 together: only b and d match so far (a and c have a missing block).

2

Add shape 3 (the 2-block tower). The result matches option d.

Answer: d

Two friends A and B play a game of tennis with 5 sets. No set can end in a draw. Anyone who wins 3 or more sets will win the game. A won set 1, B won sets 2 and 3. If B did not lose any **EVEN NUMBERED** set, who won the tennis game?

a) A

b) B

c) Game ended in a tie

d) Cannot be Determined

60s

Think on your own first. Write your answer in your handbook. Then tell your partner **HOW** you found it.

Two friends A and B play a game of tennis with 5 sets. No set can end in a draw. Anyone who wins 3 or more sets will win the game. A won set 1, B won sets 2 and 3. If B did not lose any **EVEN NUMBERED** set, who won the tennis game?

a) A

b) B

c) Game ended in a tie

d) Cannot be Determined

Hint: Make a table of the 5 sets and fill in what you KNOW. What does 'B did not lose any even-numbered set' tell you about set 4?

Who won the tennis game?

a) A

b) B

c) Game ended in a tie

d) Cannot be Determined

Who won the tennis game?

a) A

b) B

c) Game ended in a tie

d) Cannot be Determined

1 We know: set 1 $\rightarrow$ A, sets 2 and 3 $\rightarrow$ B.

Who won the tennis game?

a) A

b) B

c) Game ended in a tie

d) Cannot be Determined

1 We know: set 1 $\rightarrow$ A, sets 2 and 3 $\rightarrow$ B.

2 Set 4 is EVEN. B did not lose it and no draws are allowed, so B won set 4.

Who won the tennis game?

a) A

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3 B has won 3 sets (2, 3 and 4). 3 or more wins the game: B wins.

Who won the tennis game?

a) A

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1 We know: set 1 $\rightarrow$ A, sets 2 and 3 $\rightarrow$ B.

2 Set 4 is EVEN. B did not lose it and no draws are allowed, so B won set 4.

3 B has won 3 sets (2, 3 and 4). 3 or more wins the game: B wins.

Answer: **b) B**

Chapter 2 complete

Ask: Which question was the hardest? Which strategy helped you most: breaking it into parts, spotting a pattern, ignoring details, or going step by step?



Decomposition



Abstraction



Pattern recognition



Algorithmic
thinking

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