

# GL Mock 3B



## Paper B

### Mathematical and Non-Verbal Skills

- This test is divided into two sections.
- The first section Non-Verbal Reasoning and Spatial Reasoning skills. It contains five 5-minute subtests. You will have a chance to practise a few questions before each subtest.
- The second section tests Mathematics. It consists of a 5-minute practice section followed by a 25-minute test.
- All answers should be marked on the separate answer sheet provided.

**Please turn over the page to begin the practice section for Non-Verbal**

**Reasoning Subtest 1.**

# Non-Verbal Reasoning Subtest 1 Practice

(5 minutes)

This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

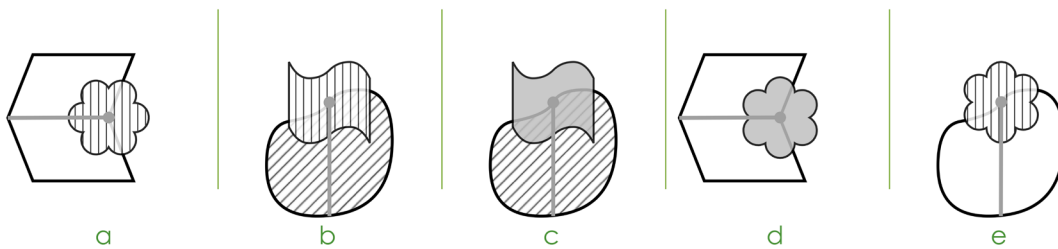
There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

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In these questions, there are five figures. You must work out which is most unlike the other four and mark its letter on your answer sheet.

Choose the correct figure and mark it on your answer sheet.

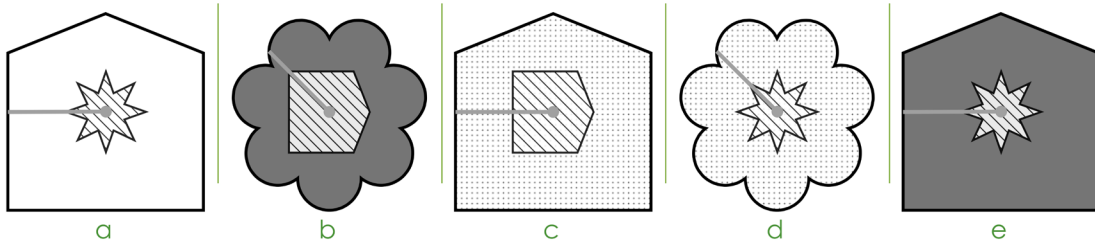
## A Example



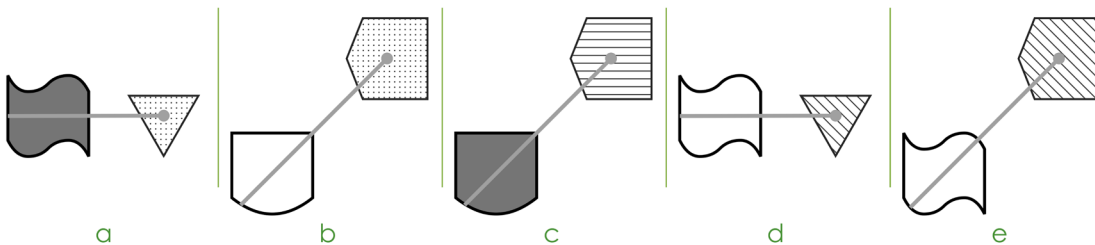
The answer is **a**.

## 1 Practice

Choose the figure that is the odd one out.



## 2 Practice



## END OF PRACTICE

Non-Verbal Reasoning Subtest 1 begins on the next page.

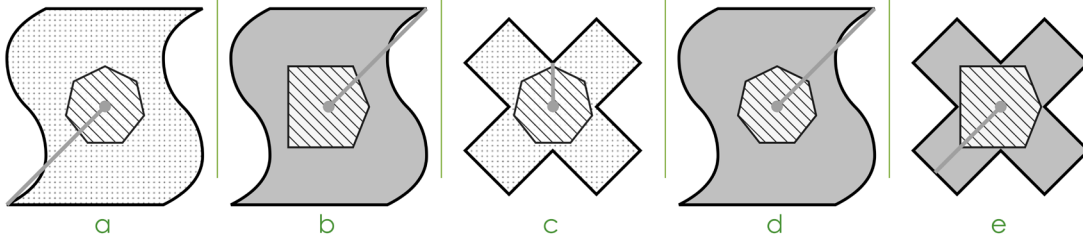
- You have 5 minutes to complete Non-Verbal Reasoning Subtest 1.
- There are 10 questions to answer.
- Your time will start when you turn over the page.
- Do not turn over the page until you are told to do so.

# Non-Verbal Reasoning Subtest 1

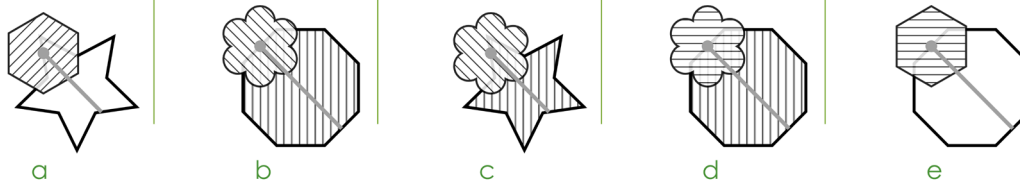
(5 minutes)

In these questions, there are five figures. You must work out which is most unlike the other four and mark its letter on your answer sheet.

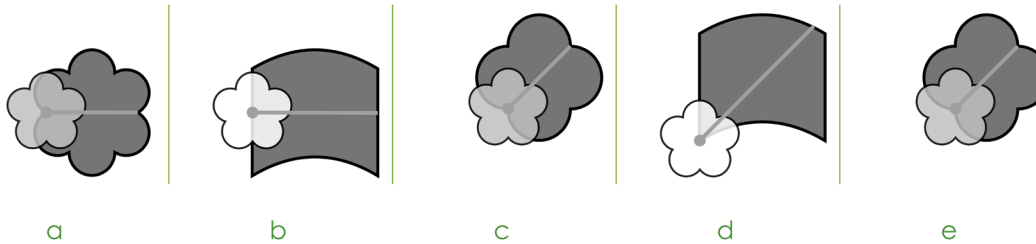
1



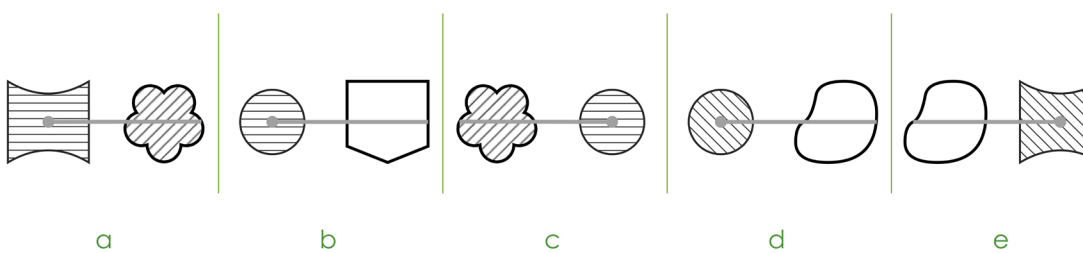
2



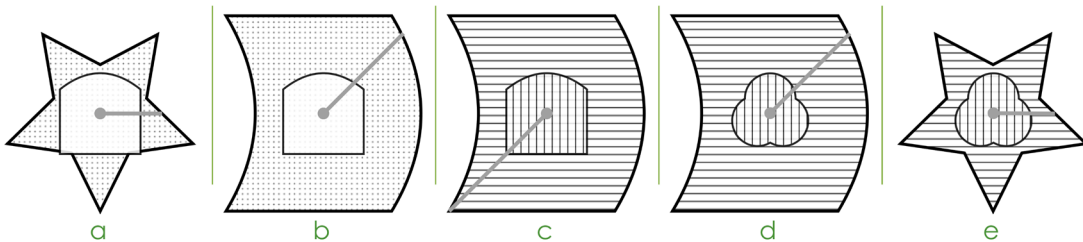
3



4

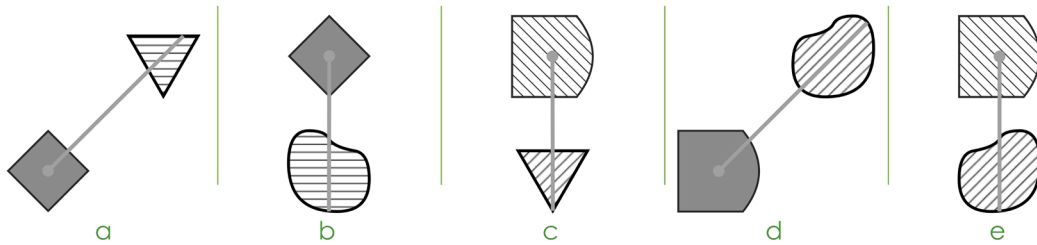


5

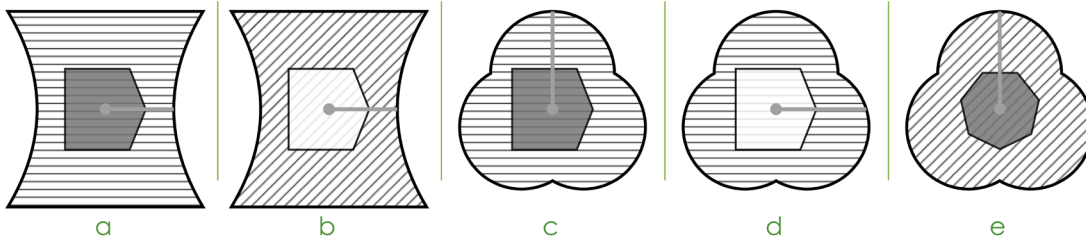




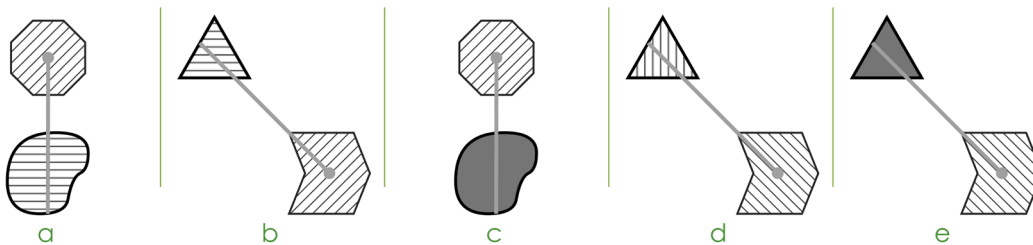
6



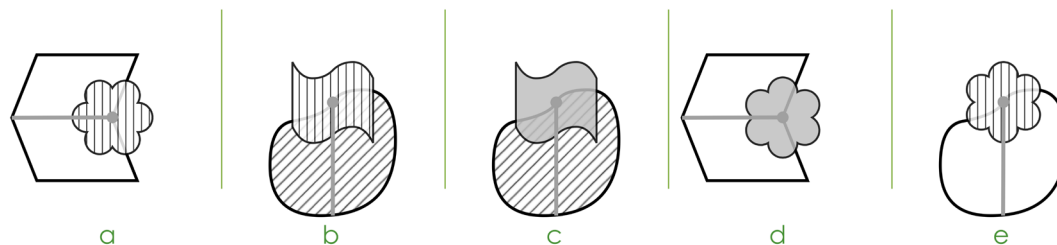
7



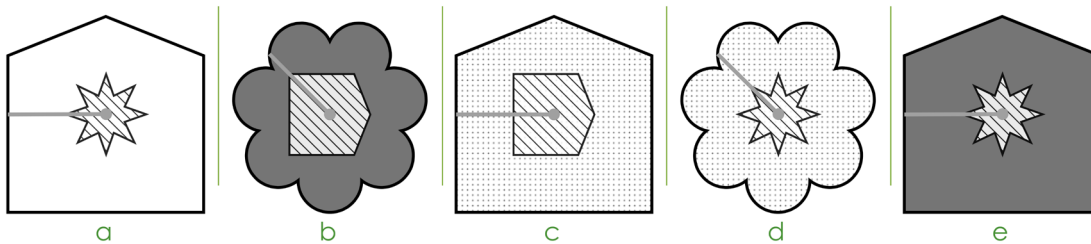
8



9



10



END OF NON-VERBAL REASONING SUBTEST 1  
DO NOT TURN OVER THE PAGE UNTIL YOU ARE TOLD TO DO SO.

# Non-Verbal Reasoning Subtest 2 Practice

(untimed)

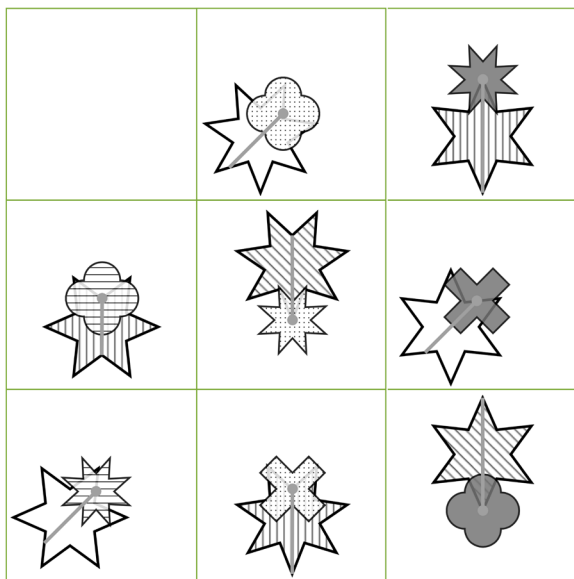
This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

In these questions, one of the small squares in the matrix has been left empty. One of the five figures underneath should fill the empty square.

Choose the correct figure and mark it on your answer sheet.

## A Example



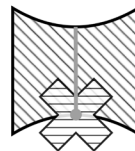
a



b



c



d

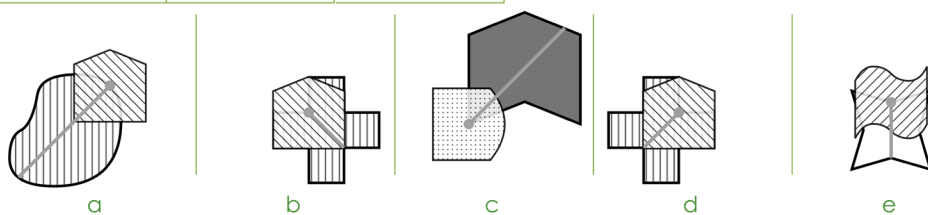
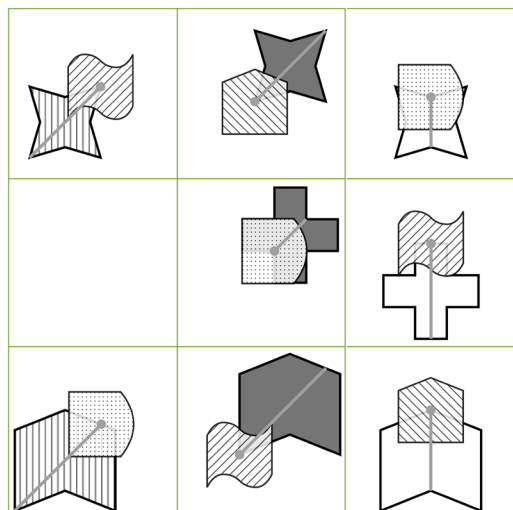


e

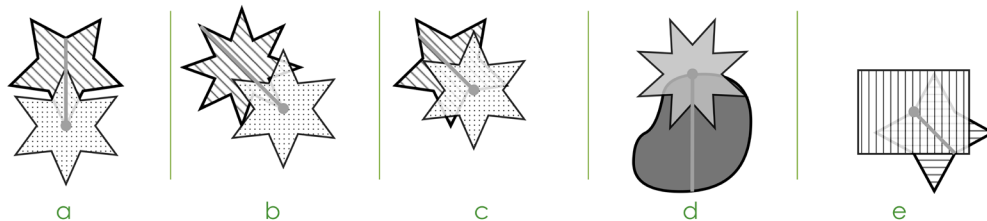
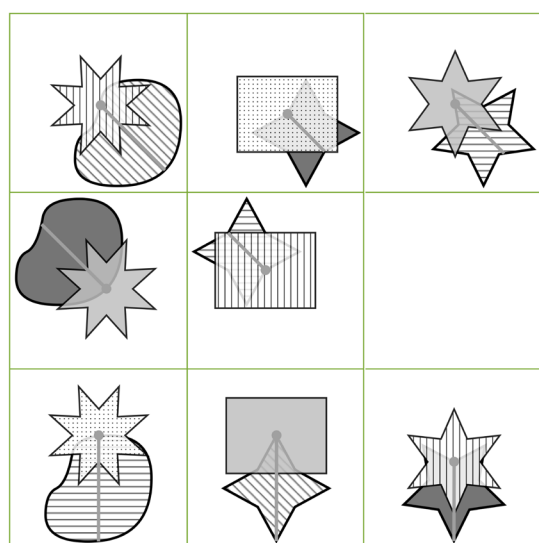
The answer is **b**.

## 1 Practice

Which figure should fill the empty square?



## 2 Practice



**END OF PRACTICE**

Non-Verbal Reasoning Subtest 2 begins on the next page.

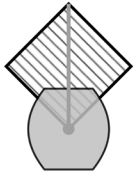
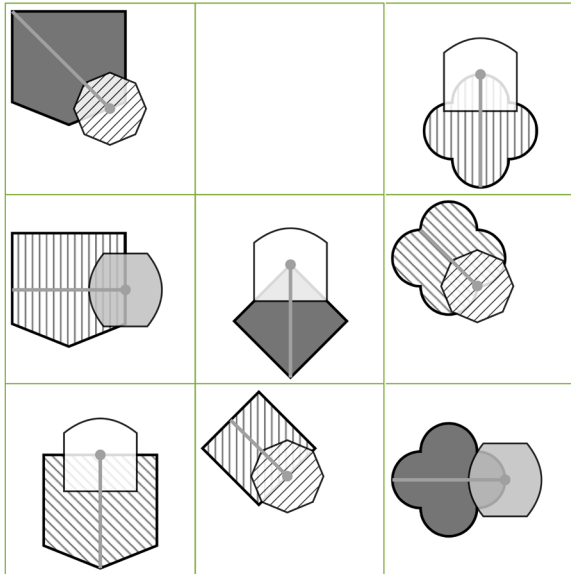
- You have 5 minutes to complete Non-Verbal Reasoning Subtest 2.
- There are 10 questions to answer.
- Your time will start when you turn over the page.
- Do not turn over the page until you are told to do so.

## Non-Verbal Reasoning Subtest 2

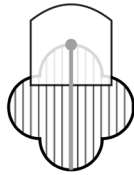
(5 minutes)

Which figure should fill the empty square? Mark its letter on your answer sheet.

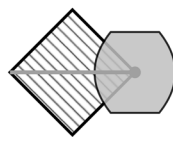
1



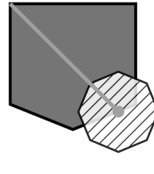
a



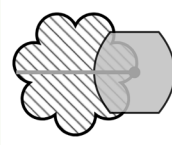
b



c

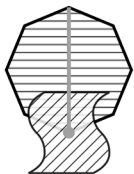
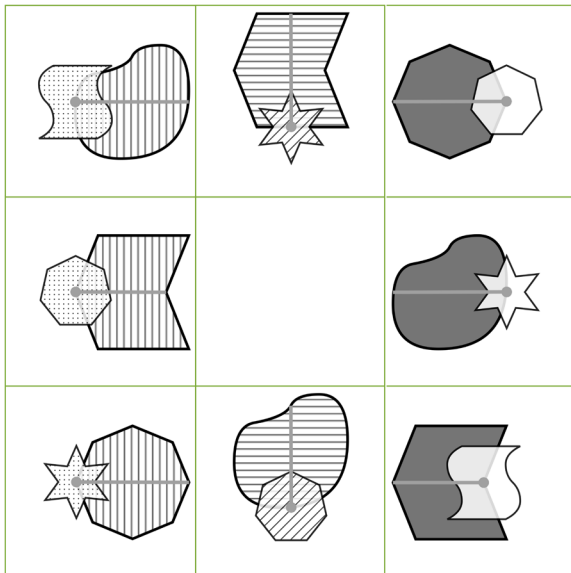


d

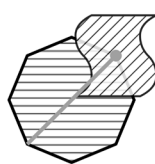


e

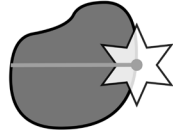
2



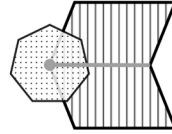
a



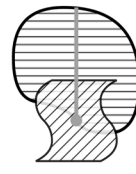
b



c

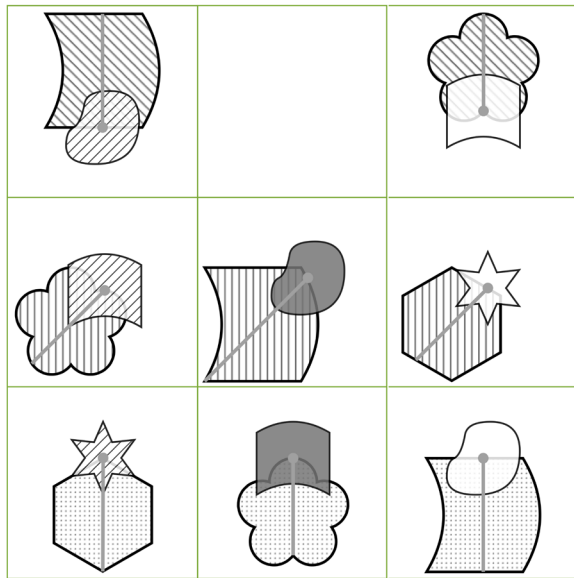


d

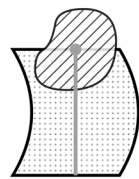


e

3



a



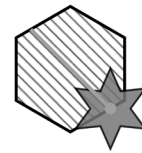
b



c

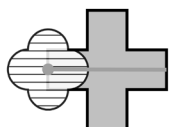
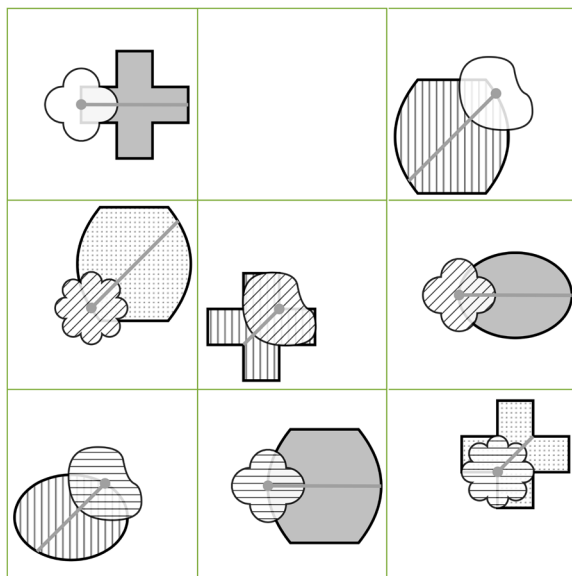


d



e

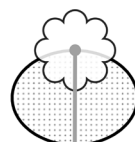
4



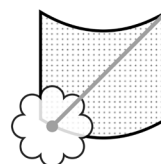
a



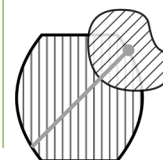
b



c

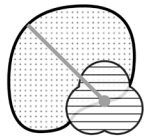
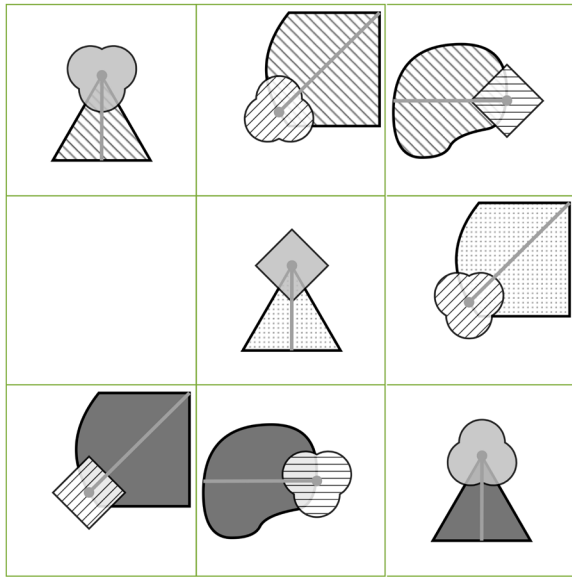


d

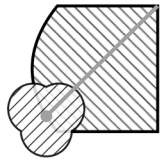


e

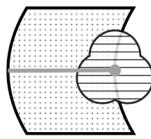
5



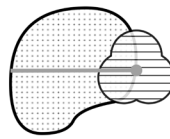
a



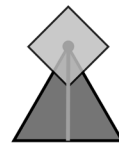
b



c

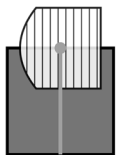
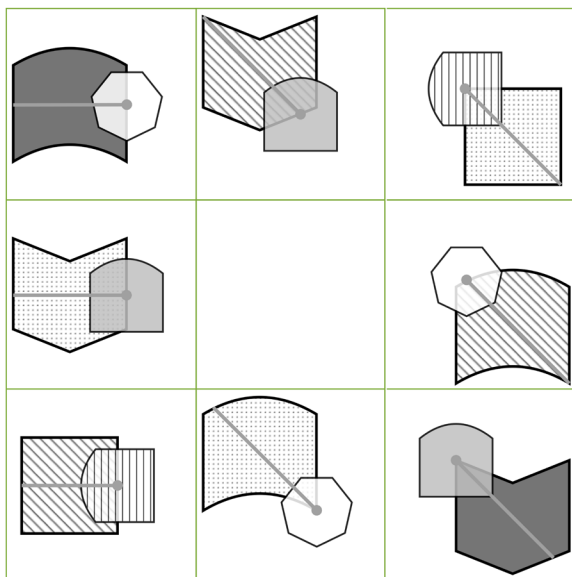


d

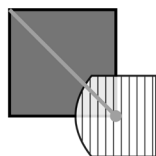


e

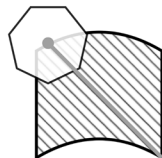
6



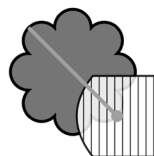
a



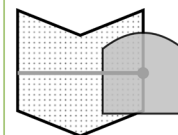
b



c

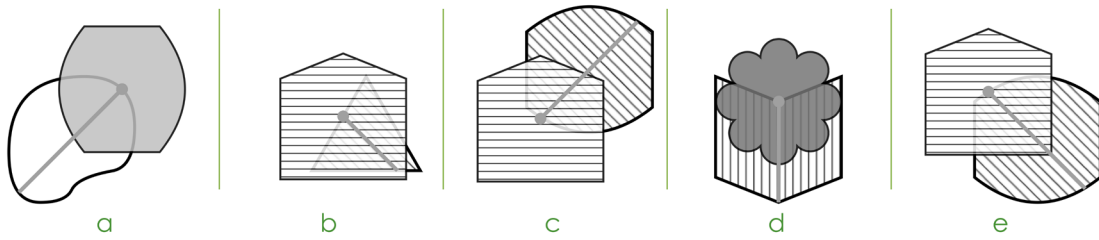
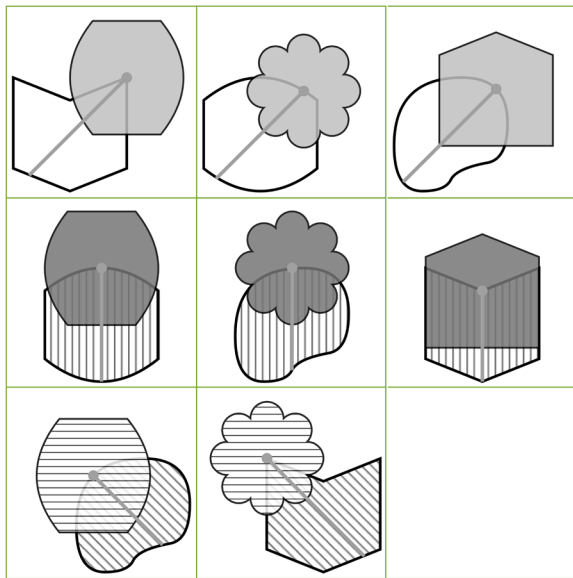


d

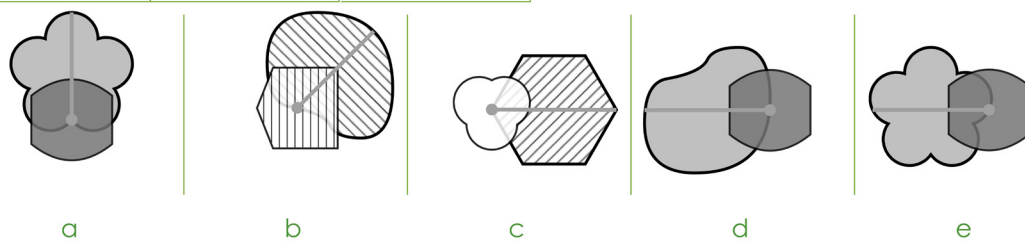
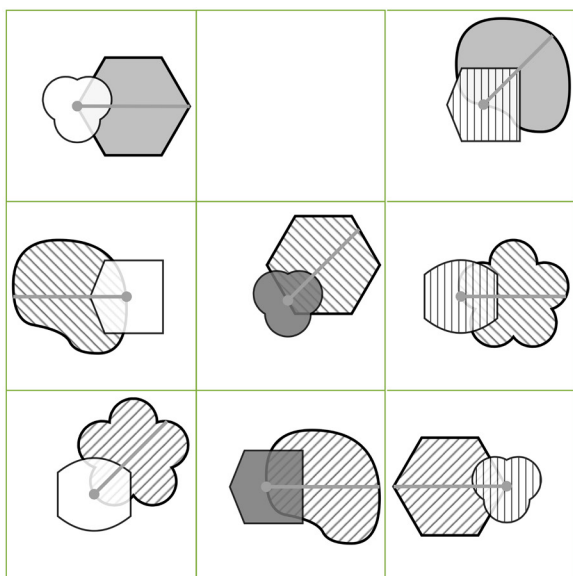


e

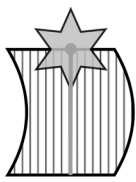
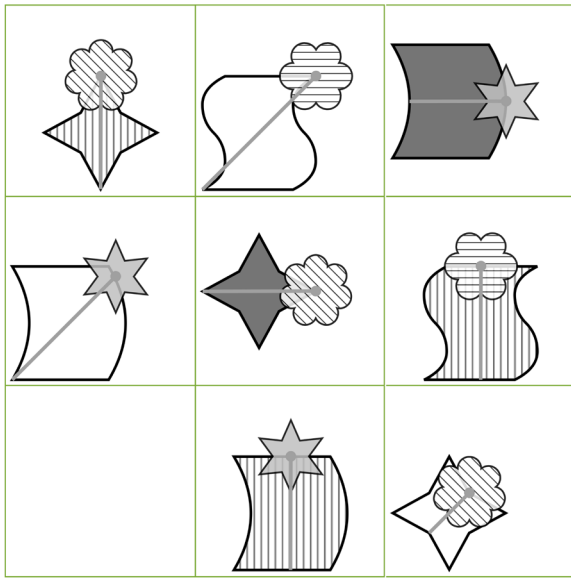
7



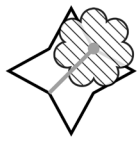
8



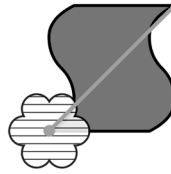
9



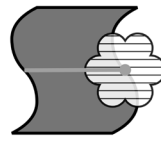
a



b



c

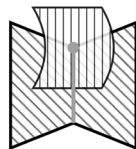
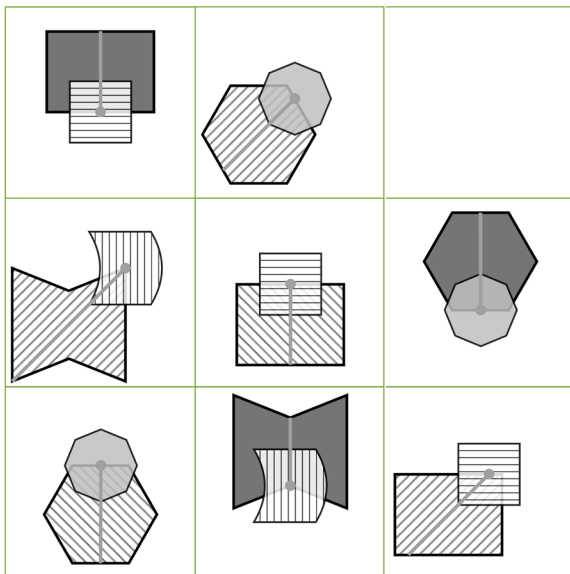


d



e

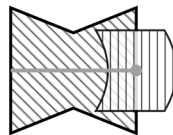
10



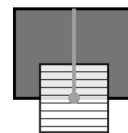
a



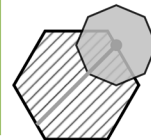
b



c



d



e

END OF NON-VERBAL REASONING SUBTEST 2  
DO NOT TURN OVER THE PAGE UNTIL YOU ARE TOLD TO DO SO.



# Non-Verbal Reasoning Subtest 3 Practice

(5 minutes)

This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

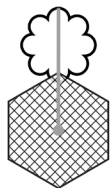
There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

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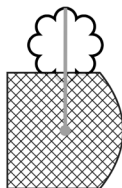
In each question, there are figures and code letters that go with them. There may be two or three letters that make up each code. Each letter within a code means something different and corresponds to a part of the figure. One figure is missing a code.

Choose the missing code and mark it on your answer sheet.

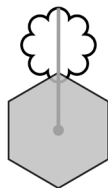
## A Example



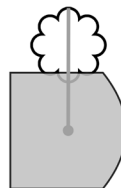
WO



XO



WP



??

a. WO

b. WP

c. XQ

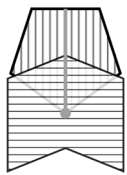
d. XP

e. XO

The answer is **d**.

## 1 Practice

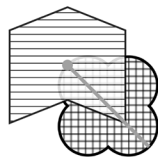
What is the missing code?



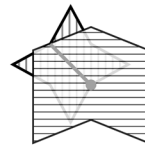
UXA



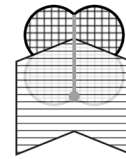
VXB



VYC



WXB



???

a. WYA

b. VYA

c. VXC

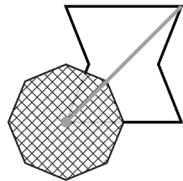
d. VYB

e. UYA

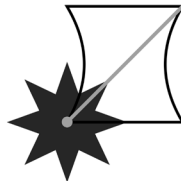
## 2 Practice



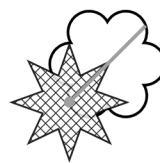
QXIC



RXJD



SYID



????

a. QYID

b. RYJD

c. QYJD

d. SYJD

e. RYID

## END OF PRACTICE

Non-Verbal Reasoning Subtest 3 begins on the next page.

- You have 5 minutes to complete Non-Verbal Reasoning Subtest 3.
- There are 10 questions to answer.
- Your time will start when you turn over the page.
- Do not turn over the page until you are told to do so.

# Non-Verbal Reasoning Subtest 3

(5 minutes)

In these questions, you must work out the missing code and mark its letter on your answer sheet.

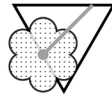
1



WO



XP



WP



??

a. YP

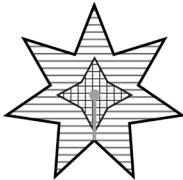
b. XO

c. XP

d. WP

e. WO

2



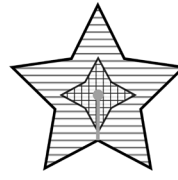
XIR



XJS



YIS



???

a. XJR

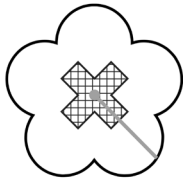
b. YJS

c. XIS

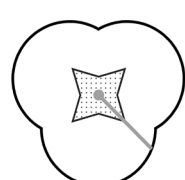
d. YJR

e. YIR

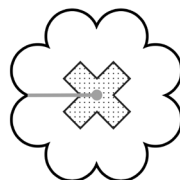
3



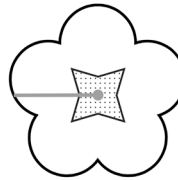
SEWJ



TFXJ



UEXK



????

a. SFXK

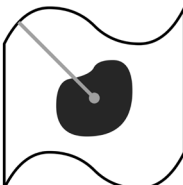
b. SEWK

c. SEXJ

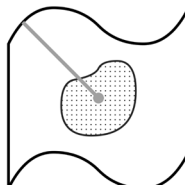
d. TEXJ

e. UFXK

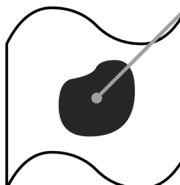
4



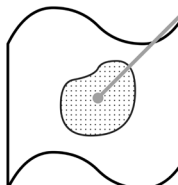
SO



TO



SP



??

a. TP

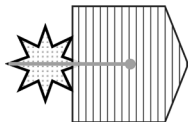
b. SO

c. UP

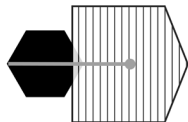
d. TO

e. SP

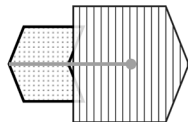
5



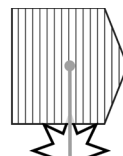
JFW



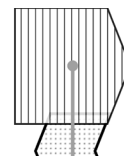
KGW



LFW



JHX



???

a. LHX

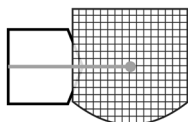
b. KHW

c. LFX

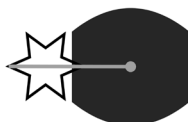
d. LGW

e. LGX

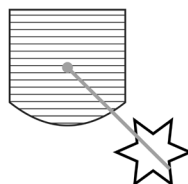
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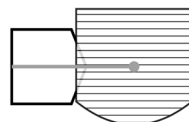
EAIT



FBJT



FAKU



????

a. FBIU

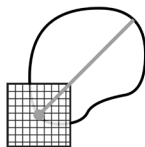
b. EBIT

c. EAKT

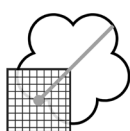
d. EAIU

e. FBKU

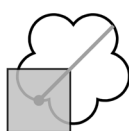
7



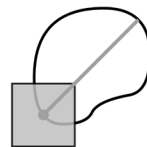
ME



NE



NF



??

a. ME

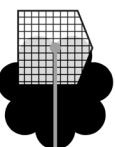
b. NF

c. MF

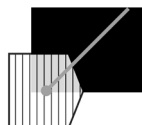
d. MG

e. NE

8



IEP



JFQ



IGQ



KFQ



???

a. KEQ

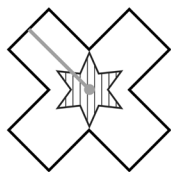
b. KGP

c. KEP

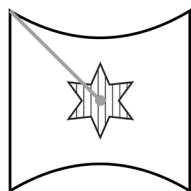
d. JGQ

e. KFP

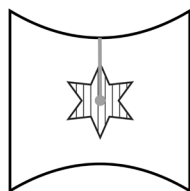
9



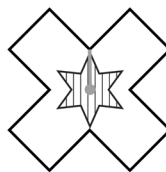
LH



MH



MI



??

a. LH

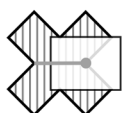
b. LI

c. MI

d. MH

e. MJ

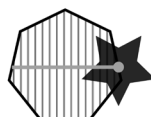
10



MJSB



MKTC



NLTB



????

a. NJTC

b. NKSB

c. NKTB

d. NJSC

e. MKSC

END OF NON-VERBAL REASONING SUBTEST 3

DO NOT TURN OVER THE PAGE UNTIL YOU ARE TOLD TO DO SO.

# Spatial Reasoning Subtest 1 Practice

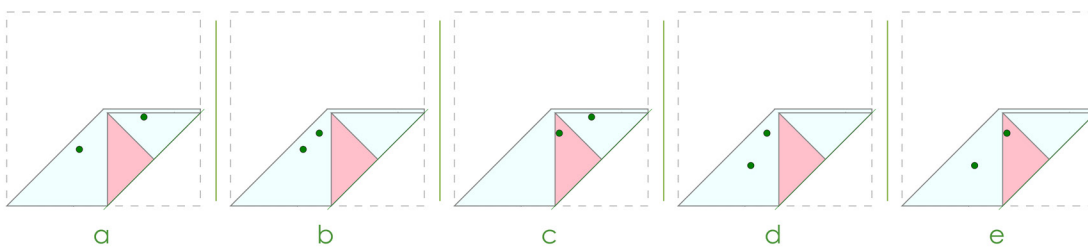
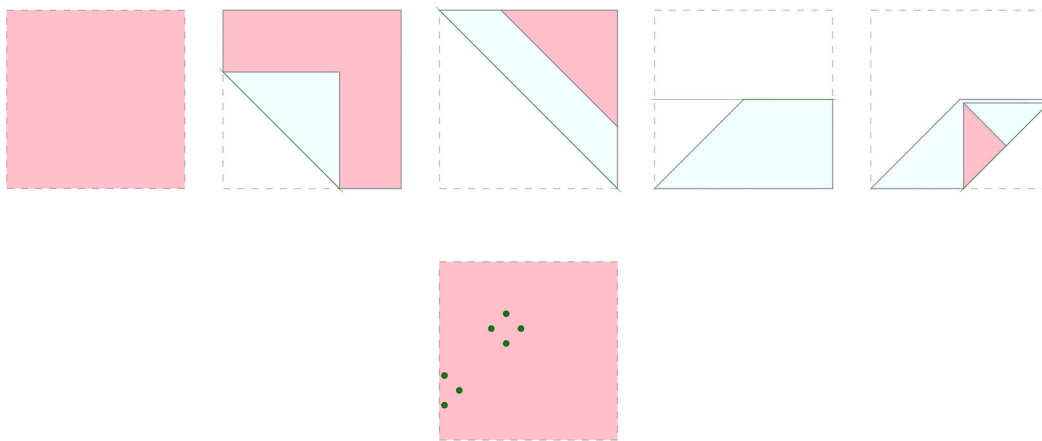
(untimed)

This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

In these questions, a square of paper is folded in the sequence shown. The next shape shows the paper unfolded, with holes. You must choose the figure that shows where the holes were punched. Choose the correct figure and mark it on your answer sheet.

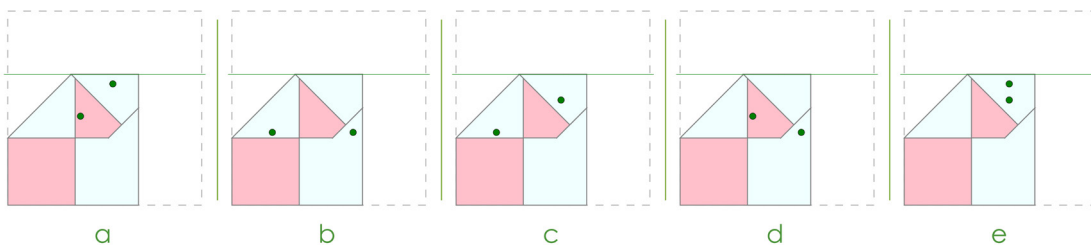
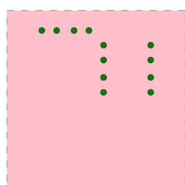
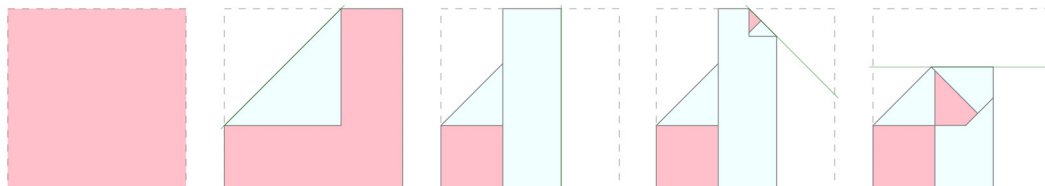
## A Example



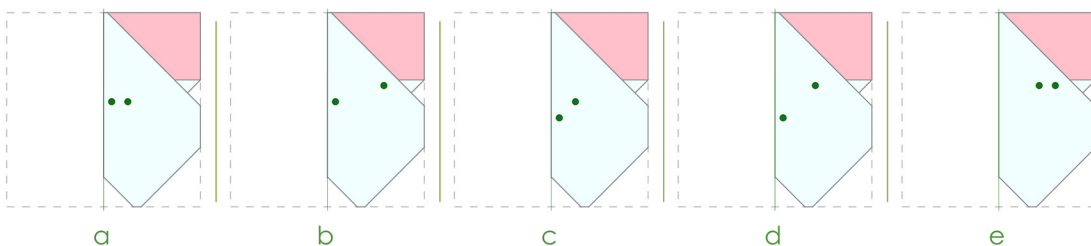
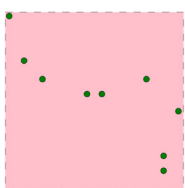
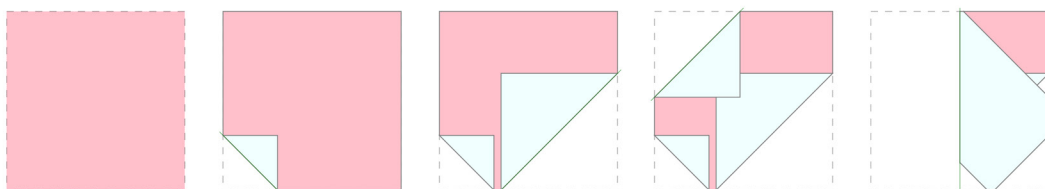
The answer is **b**.

## 1 Practice

Choose the figure that shows where the holes were punched.



## 2 Practice



## **END OF PRACTICE**

The Spatial Reasoning Subtest 1 begins on the next page.

- You have 5 minutes to complete Spatial Reasoning Subsection 1.
- There are 10 questions to answer.
- Your time will start when you turn over the page.
- Do not turn over the page until you are told to do so.

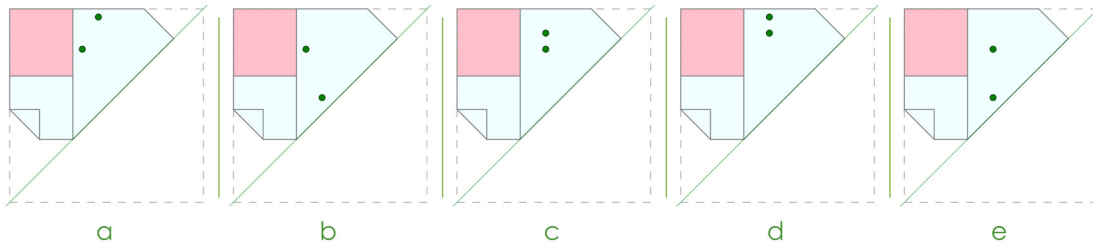
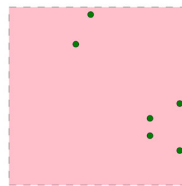
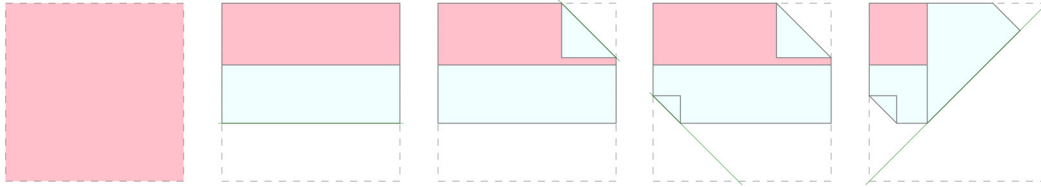


# Spatial Reasoning Subtest 1

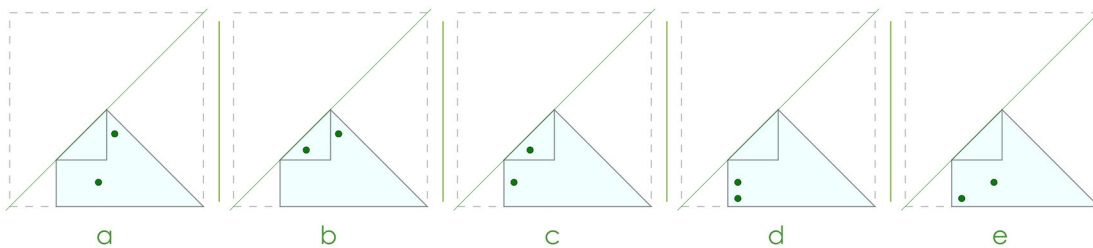
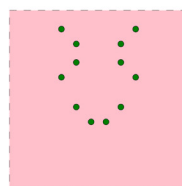
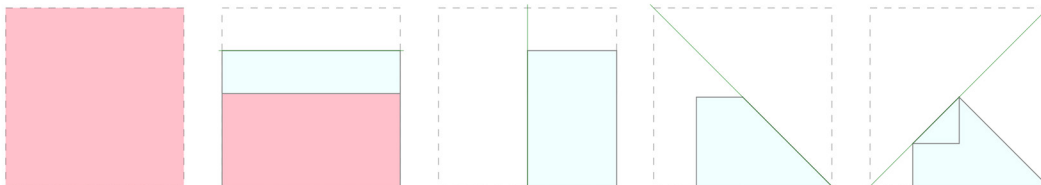
(5 minutes)

A square of paper is folded in the sequence shown. The next shape shows the paper unfolded, with holes. Where were the holes punched to create these holes? Mark its letter on your answer sheet.

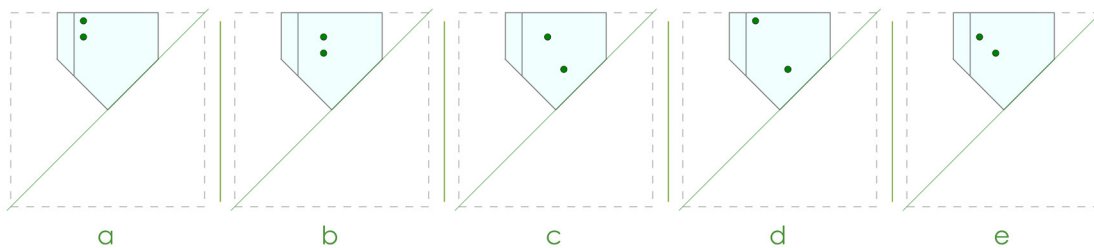
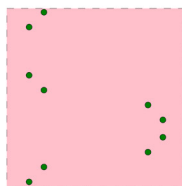
1



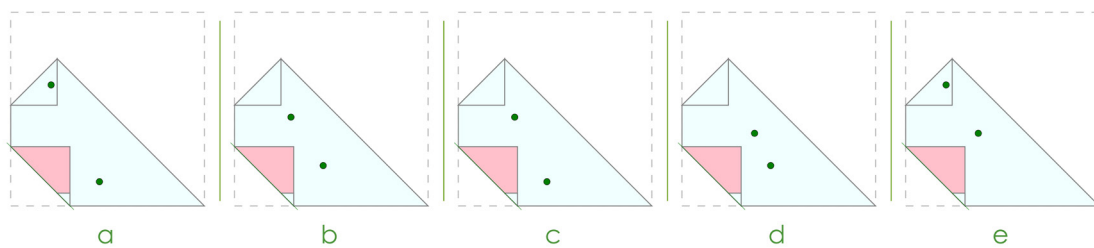
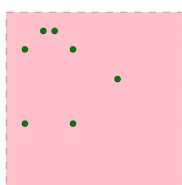
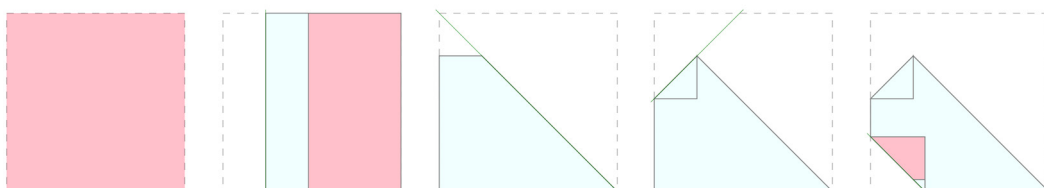
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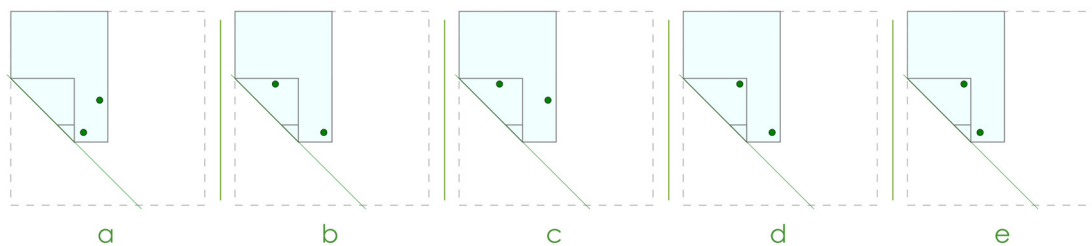
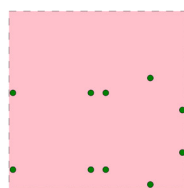
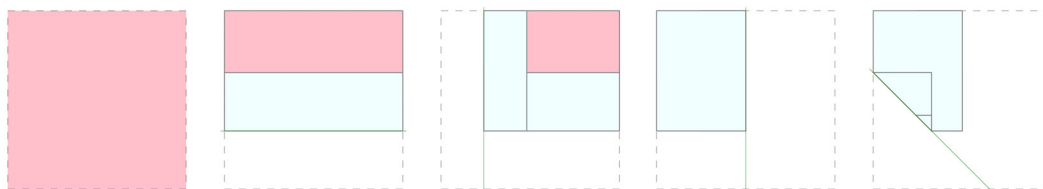
3



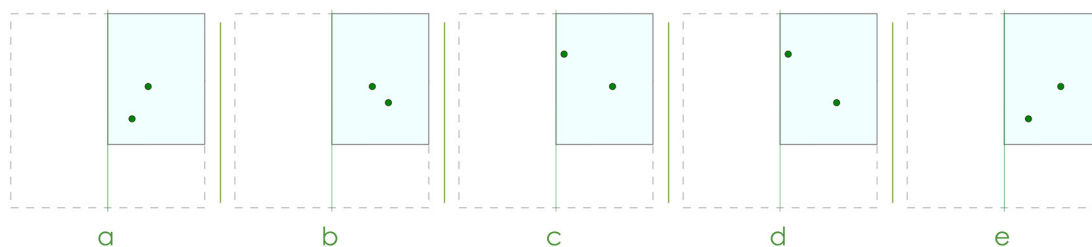
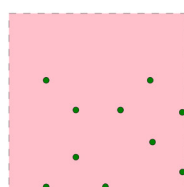
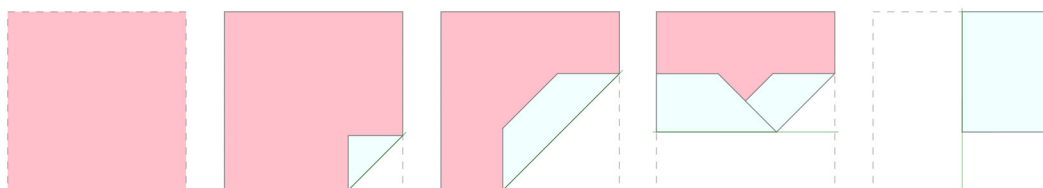
4



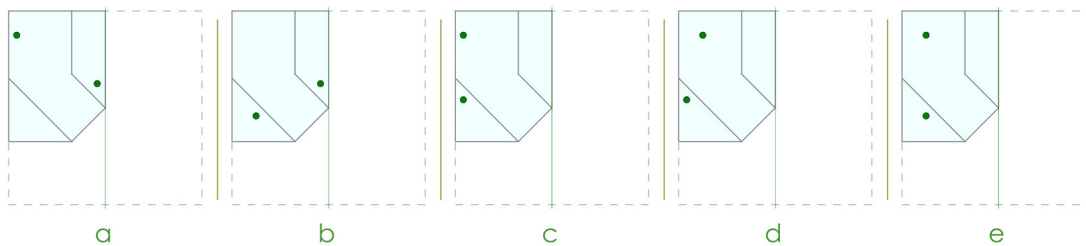
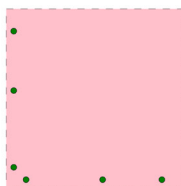
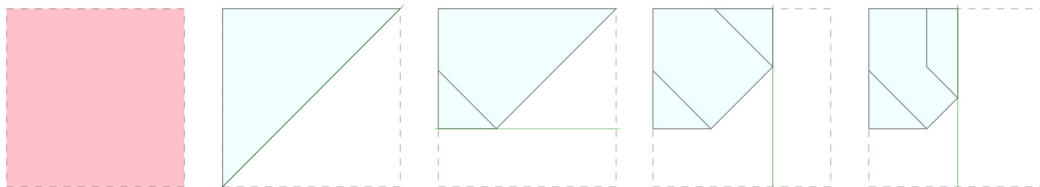
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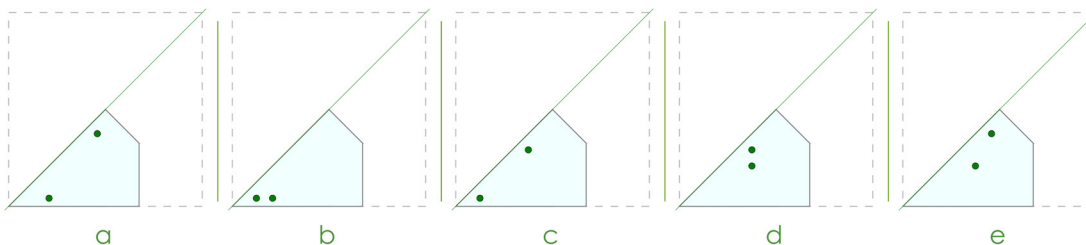
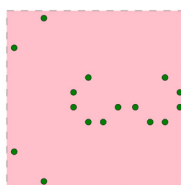
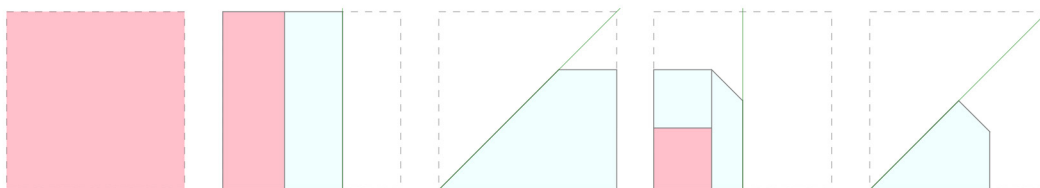
6



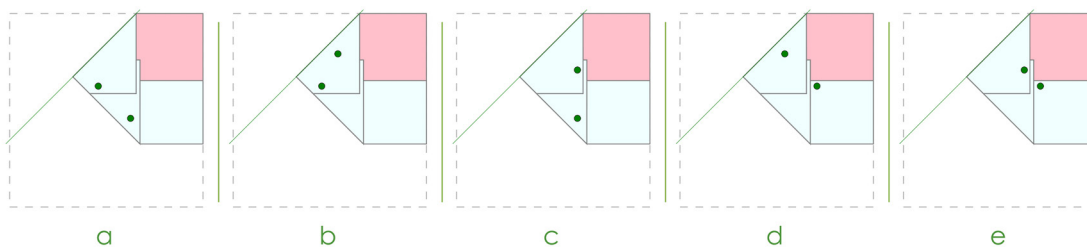
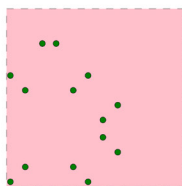
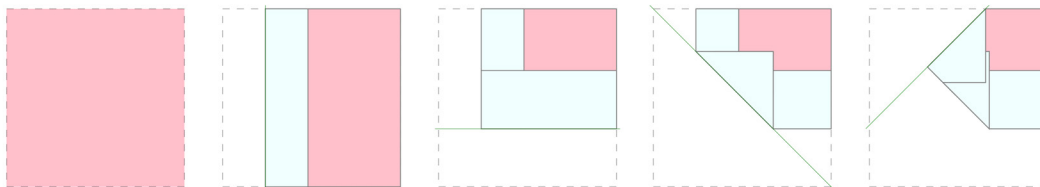
7



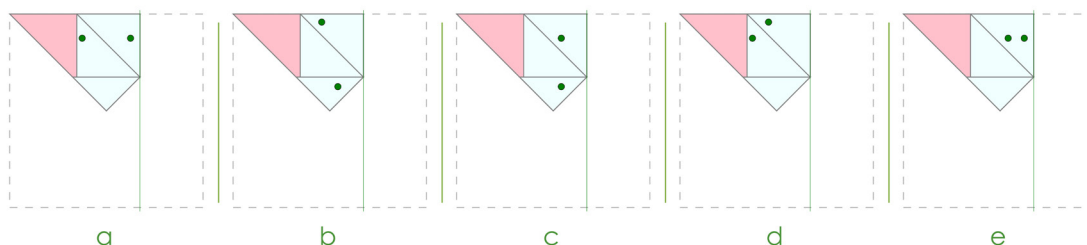
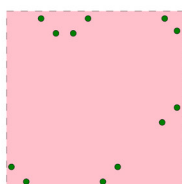
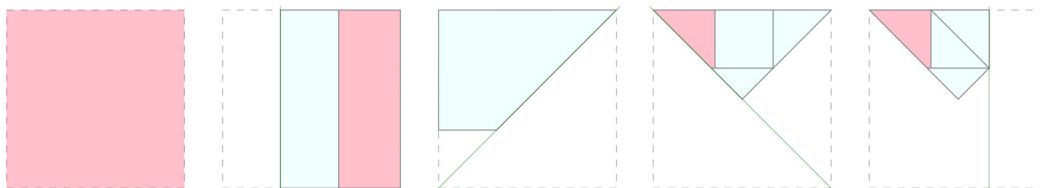
8



9



10



END OF SPATIAL REASONING SUBTEST 1  
DO NOT TURN OVER THE PAGE UNTIL YOU ARE TOLD TO DO SO.

# Spatial Reasoning Subtest 2 Practice

(untimed)

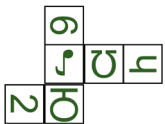
This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

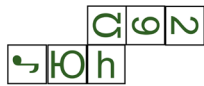
In these questions, you are shown different views of a single cube.

You must choose the net that that can be used to construct that cube. Choose the correct figure and mark it on your answer sheet.

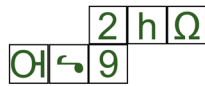
## A Example



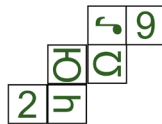
a



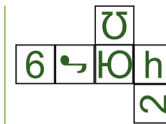
b



c



d

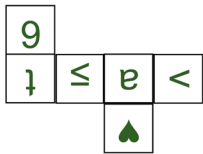


e

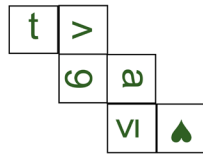
The answer is **c**.

## 1 Practice

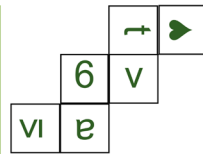
Look at the two views of a single cube. Pick the net that CAN be used to construct that cube.



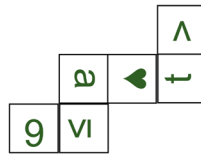
a



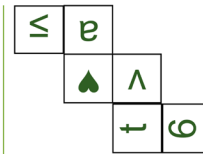
b



c

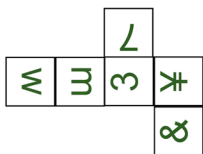


d

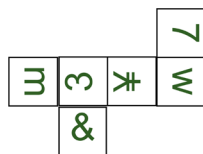


e

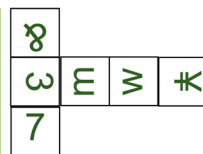
## 2 Practice



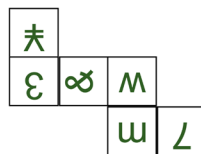
a



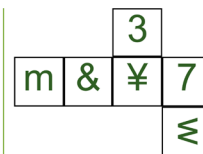
b



c



d



e

## END OF PRACTICE

The Spatial Reasoning section begins on the next page.

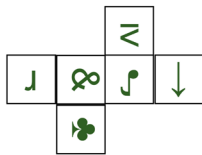
- You have 5 minutes to complete the Spatial Reasoning test.
- There are 10 questions to answer.
- Your time will start when you turn over the page.
- Do not turn over the page until you are told to do so.

## Spatial Reasoning Subtest 2

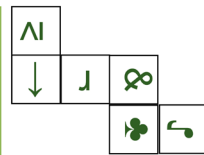
(5 minutes)

Look at the two views of a single cube. Pick the net that CAN be used to construct that cube.

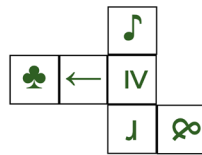
1



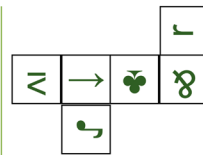
a



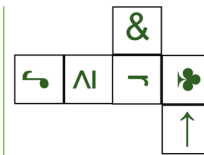
b



c

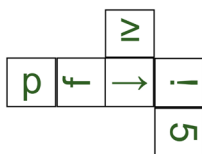


d

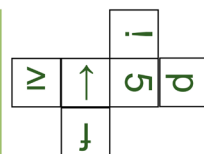


e

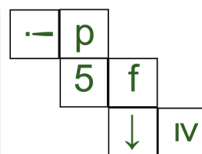
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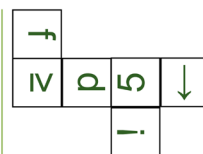
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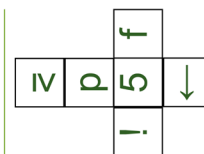
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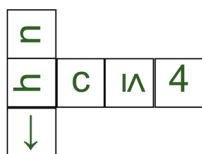


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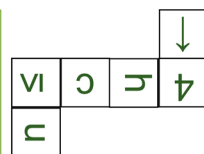


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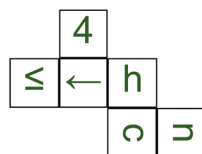
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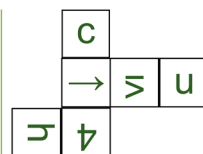
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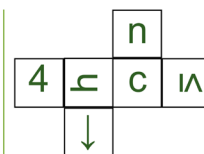
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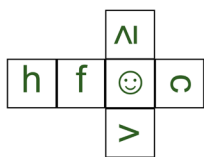
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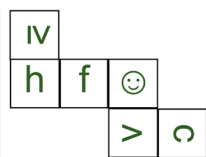
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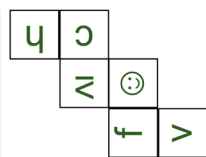
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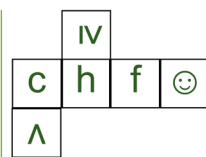
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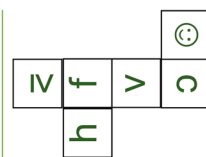
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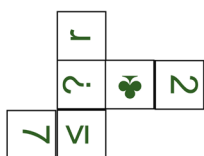


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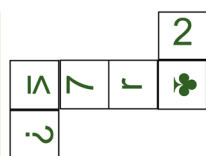


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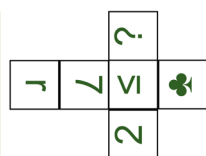
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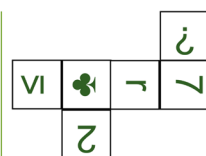
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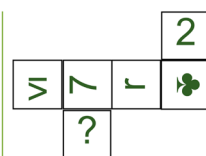
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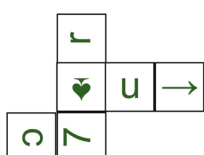


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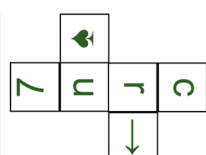


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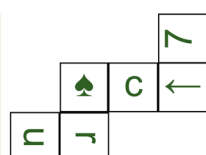
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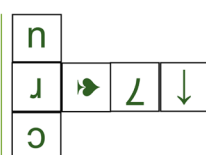
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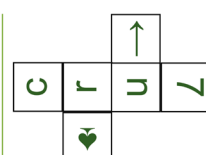
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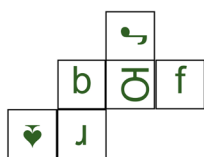


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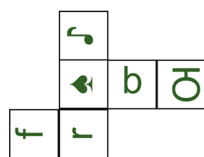


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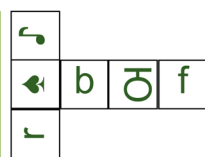
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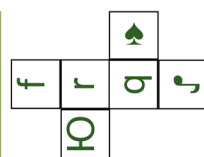
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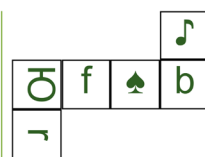
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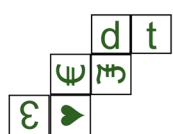


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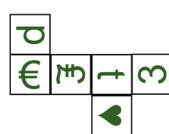


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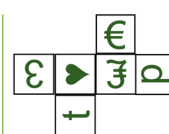
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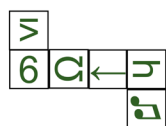


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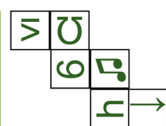
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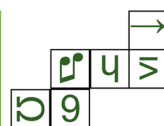
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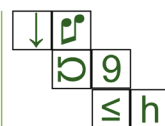
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END OF SPATIAL REASONING SUBTEST 2  
DO NOT TURN OVER THE PAGE UNTIL YOU ARE TOLD TO DO SO.

# Maths Practice Section

(5 minutes)

This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

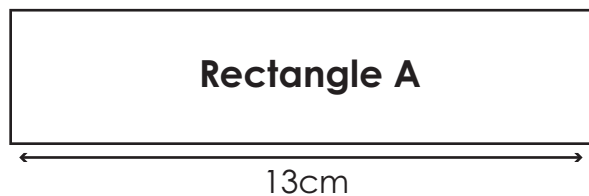
There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

---

**Work out the correct answer and mark its letter on the answer sheet.**

## A Example

The perimeter of Rectangle A is 42cm.



What is the width of Rectangle A?

- A. 4cm      B. 5cm      C. 6cm      D. 7cm      E. 8cm

The answer is **8cm**. To calculate the perimeter of a 2D shape, you add up the lengths of all its sides. The two lengths of the rectangle give a total of 26cm. If we take this away from the total perimeter, we are left with 16cm. Halve this value to get the width of the rectangle.

The correct answer has been marked on your answer sheet.

**Now try these practice questions.**

**Work out the correct answer and mark it on the answer sheet.**

**1 Practice**

A book costs £4.50. How much would 7 books cost?

- A. £30.50      B. £31.50      C. £32.50      D. £28.50      E. £27.50

**2 Practice**

A train leaves at 08:45 and arrives at 10:10. How long is the journey?

- A. 85 minutes      B. 90 minutes      C. 80 minutes      D. 75 minutes      E. 95 minutes

**END OF PRACTICE SECTION**

The maths test begins on the next page.

- You have 25 minutes to complete the maths test.
- There are 25 questions to answer.
- Your time will start when you turn over the page.
- Do not turn over the page until you are told to do so.

**Maths**  
**(25 minutes)**

**Work out the correct answer and mark its letter on your answer sheet.**

**1** Round 22.876 to 2 decimal places.

A 22

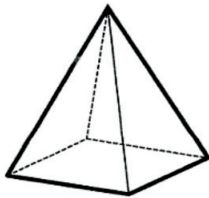
B 22.97

C 22.87

D 22.88

E 22.9

**2** The diagram shows a square-based pyramid.



How many edges does the pyramid have?

A 4

B 5

C 6

D 7

E 8

**3** What is the product of 12 and 8.5?

A 102

B 108

C 98

D 102.5

E 100

**4** Which is the smallest number?

0.4    $\frac{3}{5}$     $\frac{2}{3}$    0.25    $\frac{5}{10}$

A 0.4

B  $\frac{3}{5}$

C  $\frac{2}{3}$

D 0.25

E  $\frac{5}{10}$

**5** A headteacher is arranging for the children to go to the theatre. They will hire minibuses to take the children to the theatre. Each bus takes 16 children. There are 150 children in total.

How many buses will the school need to take all the children to the theatre?

A 5

B 7

C 9

D 10

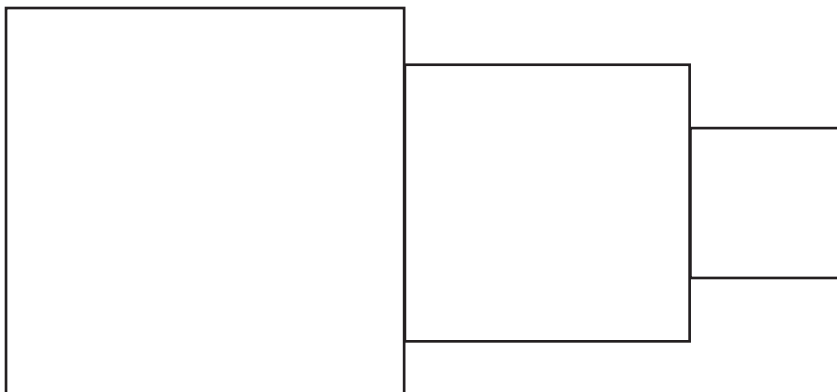
E 11

- 6 Jane is watching birds play in her garden. She noted that 3 out of 7 were pigeons. She recorded 42 birds in total.

How many birds were not pigeons?

- A 10
- B 15
- C 18
- D 24
- E 30

- 7 A square of area  $49\text{cm}^2$ , a square of perimeter  $20\text{cm}$  and a square of area  $9\text{cm}^2$  are positioned next to each other, as shown below.

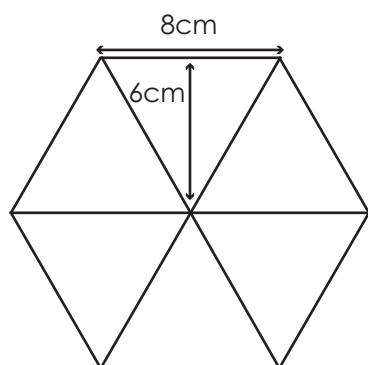


What is the perimeter of the new shape formed?

- A 38cm
- B 40cm
- C 41cm
- D 43cm
- E 44cm



- 8 The hexagon is made up of 6 identical triangles.



What is the area of the hexagon?

- A 120cm<sup>2</sup>
- B 144cm<sup>2</sup>
- C 160cm<sup>2</sup>
- D 220cm<sup>2</sup>
- E 288cm<sup>2</sup>
- 9 75 children from across reception and Year 1 were asked what their favourite animal was.

	Reception	Year 1
<b>Rabbit</b>	12	8
<b>Dog</b>	?	37
<b>Hamster</b>	4	6

How many Reception children said that dogs were their favourite animal?

- A 12
- B 59
- C 8
- D 24
- E 17

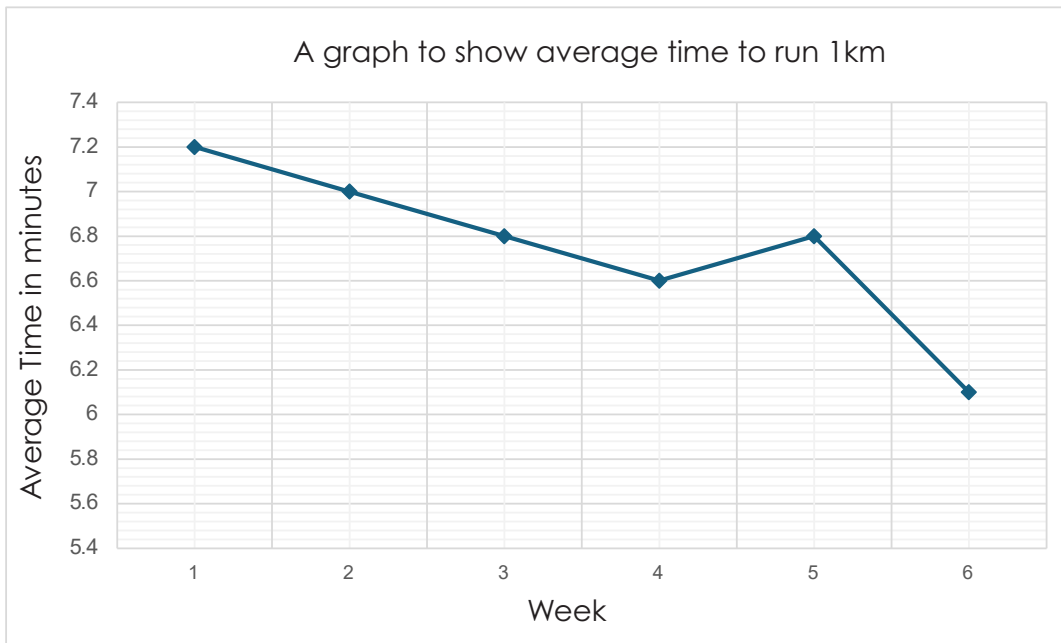
- 10 This is a coach timetable. Use this table to answer questions 10 and 11.

Explore Coaches – Daily Timetable (Monday – Friday)				
	Coach A	Coach B	Coach C	Coach D
Parkside	08:15	09:30	10:45	11:05
Riverview	08:45	10:00	11:15	11:37
Hilltop	09:10	10:30	11:40	12:15
Market Square	09:45	11:05	12:20	12:56

Liam wants to travel from Riverview to Market Square in the shortest possible time. Which coach should he take?

- A Coach A
- B Coach B
- C Coach C
- D Coach D
- E All coaches take the same amount of time.
- 11 If Coach D is delayed at Parkside by 7 minutes and delayed at Riverview by a further 6 minutes, what time will it arrive at Hilltop?
- A 11:50
- B 12:20
- C 12:28
- D 12:15
- E 13:38

The graph below shows the average time it took year 6 students to run 1km over a six-week period. Use the graph to answer questions 12 – 14.



- 12** What was the average running time in week 4?
- A 7.2 minutes
  - B 7 minutes
  - C 6.8 minutes
  - D 6.6 minutes
  - E 6.2 minutes
- 13** How many weeks had an average time less than 6.7 minutes?
- A 1 week
  - B 2 weeks
  - C 3 weeks
  - D 4 weeks
  - E 5 weeks

**14** What is the difference in average time for week 1 to week 6?

- A 1 minute
- B 1.1 minutes
- C 0.6 minutes
- D 1.2 minutes
- E 1.8 minutes

**15** Calculate  $23.6 + 14.9 =$

- A 38.2
- B 37.4
- C 38.5
- D 37.7
- E 37.15

**16**  $(4X)^3 = 512$

What is the value of X?

- A 2
- B 4
- C 8
- D 16
- E 20

- 17** A school has 480 pupils. 40% of the pupils are boys. 25% of the girls wear glasses. How many girls wear glasses?
- A 72
- B 192
- C 288
- D 55
- E 98
- 18** A bag contains 4 red counters, 3 blue counters and 5 green counters. One counter is picked at random.
- What is the probability that the counter is not green?
- A  $\frac{2}{6}$
- B  $\frac{5}{12}$
- C  $\frac{7}{12}$
- D  $\frac{3}{12}$
- E  $\frac{1}{3}$
- 19** Jasmine pours out 300ml of juice from a full jug. She has poured out  $\frac{3}{8}$  of the juice in the jug. How much juice was in the jug to start with?
- A 500ml
- B 750ml
- C 600ml
- D 800ml
- E 900ml

**20** In a sweet shop, the ratio of chocolate bars to sweets is 3:5. If there are 120 sweets, how many chocolate bars are there?

- A 45
- B 60
- C 72
- D 75
- E 80

**21** A teacher recorded the results of 9 children in a maths test. The test was out of 20 marks.

Child 1	Child 2	Child 3	Child 4	Child 5	Child 6	Child 7	Child 8	Child 9
8	11	7	16	3	10	13	8	5

What is the average result for the maths test?

- A 7
- B 8
- C 9
- D 10
- E 11

**22** Which of these numbers is a multiple of both 6 and 8?

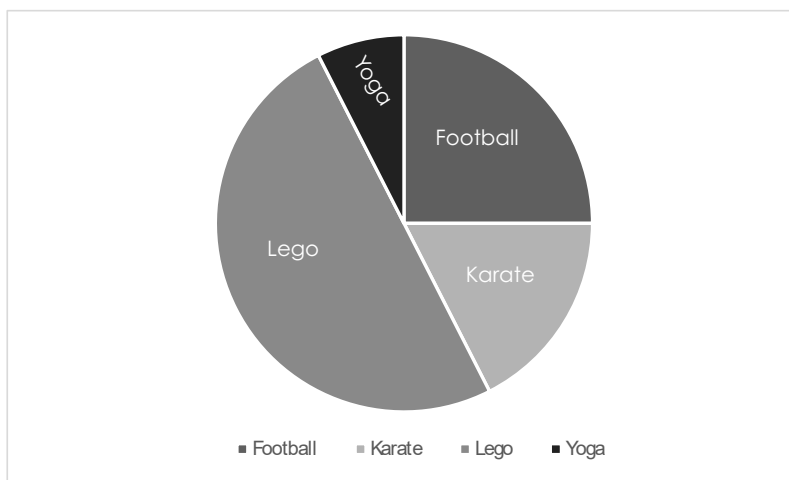
- A 24
- B 36
- C 42
- D 30
- E 32

- 23** Five bakers each baked a tray of cupcakes. Their baking times in minutes (m) and / or seconds (s) are shown in the table below.

Baker 1	Baker 2	Baker 3	Baker 4	Baker 5
1.5 m	1 m 47 s	109 s	1 m 36 s	1.25 m

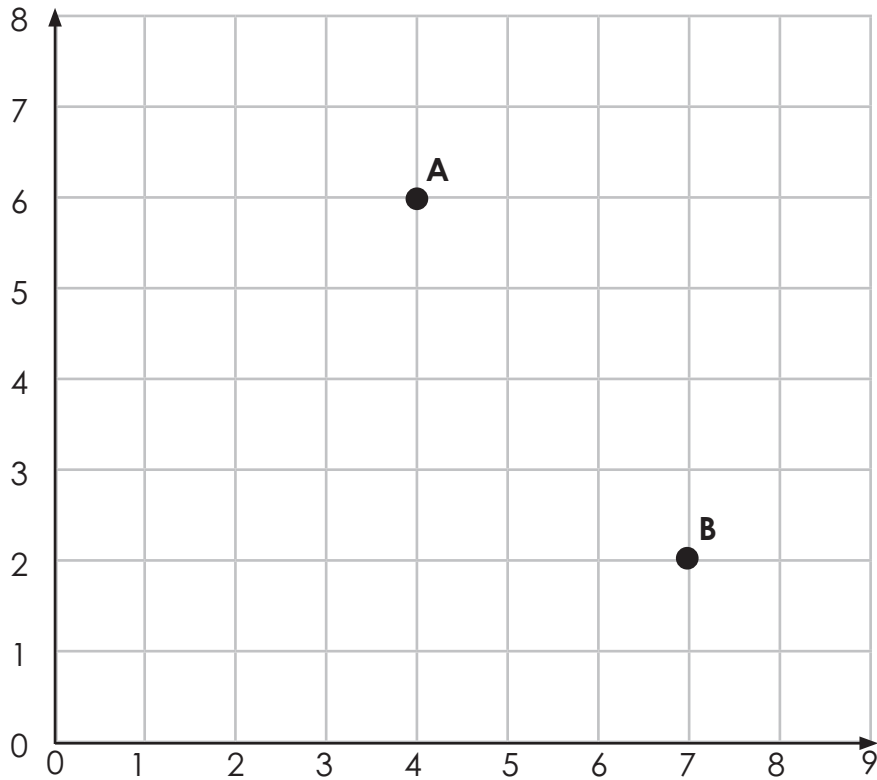
Who bakes their cupcakes the fastest?

- A Baker 1
- B Baker 2
- C Baker 3
- D Baker 4
- E Baker 5
- 24** 200 children were asked what their favourite after school club is. 35 children voted for karate. How many said their favourite after school club was yoga?



- A 10
- B 15
- C 20
- D 50
- E 30

- 25** Point A has been translated to Point B.



Which one of the following describes the correct translation?

- A 5 down, 3 right
- B 2 right, 4 down
- C 3 left, 4 down
- D 3 right, 5 down
- E 3 right, 4 down

**END OF TEST**