HAST

Higher Ability Selection Test

Sample Question Booklet

ACER

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What is HAST?

The Higher Ability Selection Test is developed by the Australian Council for Educational Research to assist schools in identifying academically gifted students for selection into a high ability class or program. The test measures higher-order thinking skills and academic potential rather than what a student has achieved in the classroom.

HAST testing is available at upper primary, junior secondary and middle and senior secondary levels. The sample questions in this booklet are similar in style and content to those found at the junior and middle secondary levels. Students sitting the senior secondary level may also find this booklet useful in providing an indication of the style and format of the questions.

What tests are included?

There are four tests in total. Students may be required to undertake three or four tests depending on the school.

Reading Comprehension

This is a multiple-choice test that measures how well you comprehend and interpret ideas in a variety of reading contexts. You will read through a range of texts including prose, poetry, diagrams, tables and maps, and then answer questions that will assess your understanding of them. You may be required to identify the main ideas or themes in a piece, identify different interpretations of the text, evaluate points of view about characters or events, or identify logical relations in factual information.

Mathematical Reasoning

This is a multiple-choice test that measures mathematical ability and quantitative reasoning skills. You will be required to comprehend, interpret and analyse mathematical information at the junior secondary level, and mathematical and scientific information at the middle and senior secondary levels. The skills assessed across all levels include comprehending and interpreting, inferring, predicting and drawing conclusions, reasoning and problem solving. At the junior secondary level, tasks are often presented in real-life situations. Solving questions may require the use of mathematical concepts such as number, pattern, space, time and measurement. In most instances you will need to apply logical and strategic thinking to work through the questions in the test.

Abstract Reasoning

This is a multiple-choice test that measures your ability to analyse and solve problems from information presented as a series of abstract diagrams. There are three types of question: Next in Sequence, Complete the Pattern and Middle-of-Sequence.

In each question you will be presented with a sequence or set of diagrams composed of various graphical elements that show changes in size, shape, number, shading and/or orientation. These changes are governed by a rule or rules. You will need to analyse the diagrams to identify the rule(s), then use the rule(s) to either continue or complete a pattern or re-order the diagrams to identify the middle-of-sequence.

Written Expression

This test is an extended writing task that assesses your ability to express your thoughts and feelings in written English. Assessment is based on thought and content, structure and organisation, expression, style, and the mechanics of your written response. The test also provides a measure of logical and creative thinking skills in addition to language competency.

Writing tasks provide an opportunity to write for different purposes and audiences. You may be given a discursive task that offers an issue or topic and prompts you to discuss the ideas that may arise. You may alternatively be given a creative task that prompts narrative or personal writing.

The stimulus material that you are given must be the basis of your writing. Be aware that you may lose marks if your writing is judged to be pre-prepared and not developed from the stimulus.

How should I use this booklet?

The HAST requires students to demonstrate a range of skills including interpreting, analysing, inferential reasoning and critical thinking under timed conditions. Reading through this booklet provides an opportunity to reflect on these skills

but it is not designed to teach you these skills. These sorts of skills may be more or less natural for you, and are often developed over a long period of time.

The sample questions in Parts 1 to 3 vary in content, style and difficulty, reflecting harder and easier questions within a test level and between test levels. The number of questions in this booklet is similar to the number of questions in a real test. You could work through the questions as if you were sitting a timed test, or you could read through each question and check the answers as you go. The answers to the questions are at the back of the booklet. Work through each question carefully and at a steady pace, and if you find one question too difficult leave it and move on to the next one. You may have time to come back to this question later. As a rough guide allow between 1 and 2 minutes per question.

Some examples of the Written Expression test are in Part 4 of this booklet. It may be useful to test your writing skills using these prompts. In the real test you will be given 25 minutes to plan and complete your writing task.

For further information go to https://www.acer.org/hast-secondary

HAST

Higher Ability Selection Test

Reading Comprehension

PART 1

Instructions

- All answers must be made on your OMR Answer Sheet.
- Part 1 asks you to look at written and visual material and to answer questions on this material. The material is divided into a number of units. There are 35 questions in total.
- For each question you must choose the answer you think correct and mark its letter (**A**, **B**, **C** or **D**) on the OMR Answer Sheet in the Reading Comprehension section.
- Be sure that the question number on your OMR Answer Sheet corresponds to the number of the question you are answering.
- Do not spend too much time on any one question; you may come back to the difficult ones later if you have time.
- Use a grey lead pencil.
- If you think you know an answer, mark it even if you are not certain it is correct.
- If you decide to change an answer, erase it completely and mark your new answer.
- You may use your test book for working through the questions. Remember to enter your answers on your OMR Answer Sheet.
- You will have **45 minutes** to do Part 1. Once you start, keep working until you have finished all the questions or the supervisor tells you to stop.

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Dr. Nikola

The following passage is from an Australian science-fiction story published in 1899. The narrator is a young man. At the beginning of the passage, Dr. Nikola is holding a plate that contains some fluid.

Dr. Nikola, however, was still manipulating the plate, turning it this way and that, as if he were anxious to produce as many varieties of colour as possible in a given time. It must have been upwards of five minutes before he spoke. As he did so he gave the dish an extra tilt, so that the mixture ran down to one side. It was now a deep purple in colour.

'Look into the centre of the fluid. You may see something that will go a long way towards convincing you of the truth of the assertion I made just now,' he said quietly.

I looked as he desired, but at first could see nothing save[1] the mixture itself, which was fast turning from purple to blue. This blue grew gradually paler; and as I watched, to my astonishment, a picture formed itself before my eyes. I saw a long wooden house, surrounded on all sides by a deep verandah. The latter was covered with a beautiful flowering creeper. On either side of the dwelling was a grove of palms, and to the right, showing like a pool of dazzling quicksilver[2] between the trees, was the sea. And pervading everything was the sensation of intense heat. At first glance I could not recall the house, but it was not long before I recognised the residence, and could even see the window of the room in which I had recovered from my first severe attack of fever – and from which I never thought to have emerged alive. With the sight of it the recollection of that miserable time came back to me, and Kelleran and even his friend Nikola were, for the moment, forgotten.

'From the expression upon your face I gather that you know the place,' said Nikola, after I had been watching it for a few moments. 'Now look into the verandah, and tell me if you recognise the two men you see seated there.'

I looked again, and saw that one was myself, while the other, the man who was leaning against the verandah rail smoking a cigar, was the owner of the house itself. There could be no mistake about it. The whole scene was as plain before my eyes as if it had been a photograph taken on the spot.

'There,' said Nikola, with a little note of triumph in his voice, 'I hope that will convince you that when I say I can do a thing, I mean it.'

So saying he tilted the plate, and the picture vanished in a whirl of colour.

[1] *save*: except
[2] *quicksilver*: mercury

1 Lines 1–6 suggest that Dr. Nikola is

A angry.
B puzzled.
C confident.
D apprehensive.

2 Lines 5 and 6 suggest that the narrator had

A doubted Dr. Nikola.
B misunderstood Dr. Nikola.
C guessed what would happen next.
D not wanted to believe Dr. Nikola.

3 According to line 8, the colour of the fluid

A faded.
B deepened.
C intensified.
D became indistinct.

4 The words 'Now look into the verandah, and tell me if you recognise the two men you see seated there' (lines 19 and 20) suggest that the picture

A is starting to break up.
B is too small to be seen clearly.
C has become dark and confused.
D has become larger and more detailed.

5 Which one of the following best describes the way in which the narrator perceives the picture?

A The picture seems to emerge from the fluid.
B The picture remains contained within the fluid.
C The narrator enters the picture and remains in it until the plate is tilted.
D The room and its contents become invisible and only the picture can be seen.

6 At the end of the passage, Dr. Nikola

A asks the narrator to trust him.
B is pleased but self-contained.
C realises that he has gone too far.
D takes pleasure in the narrator's discomfort.

7 When the narrator recognises himself, he

A becomes hysterical.
B is astonished but outwardly calm.
C demands to know what is going on.
D accidentally tilts the plate and spills the fluid.

LAND FEATURES

Land features can be shown from different angles.

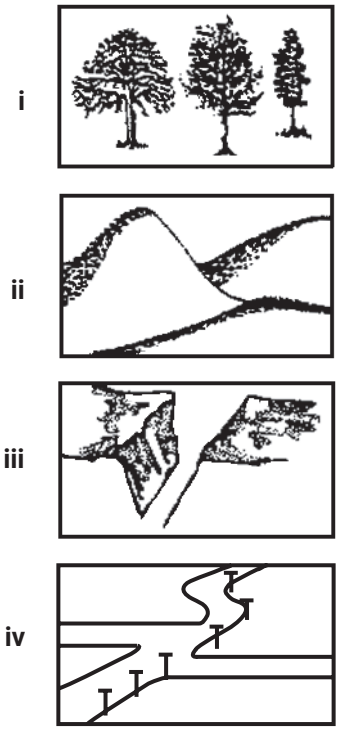


Figure 1

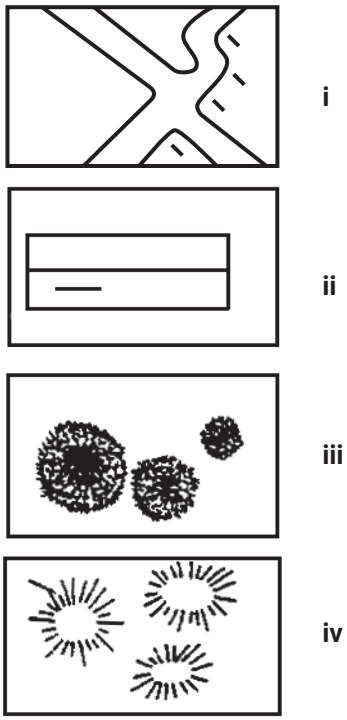


Figure 2

8 The drawings in Figure 2 are

A land features viewed from above.

B land features viewed at ground level.

C drawn on a larger scale than those in Figure 1.

D drawn more realistically than those in Figure 1.

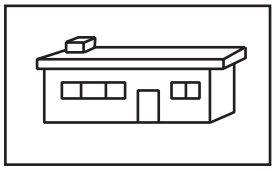
9 Which land features shown in Figure 1 are **not** shown in Figure 2?

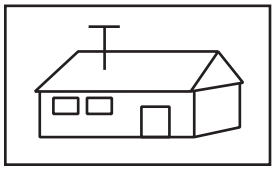
A ii only
B iii only
C i and ii only
D i, ii and iii only

10 Compared with the drawings in Figure 1, the drawings in Figure 2 give a better immediate impression of the

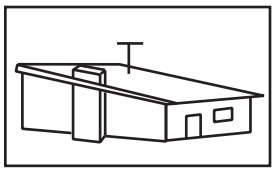
A height of features.
B beauty of features.
C importance of features.
D distance between features.

11 Which one of the following does drawing ii of Figure 2 represent?

A


C


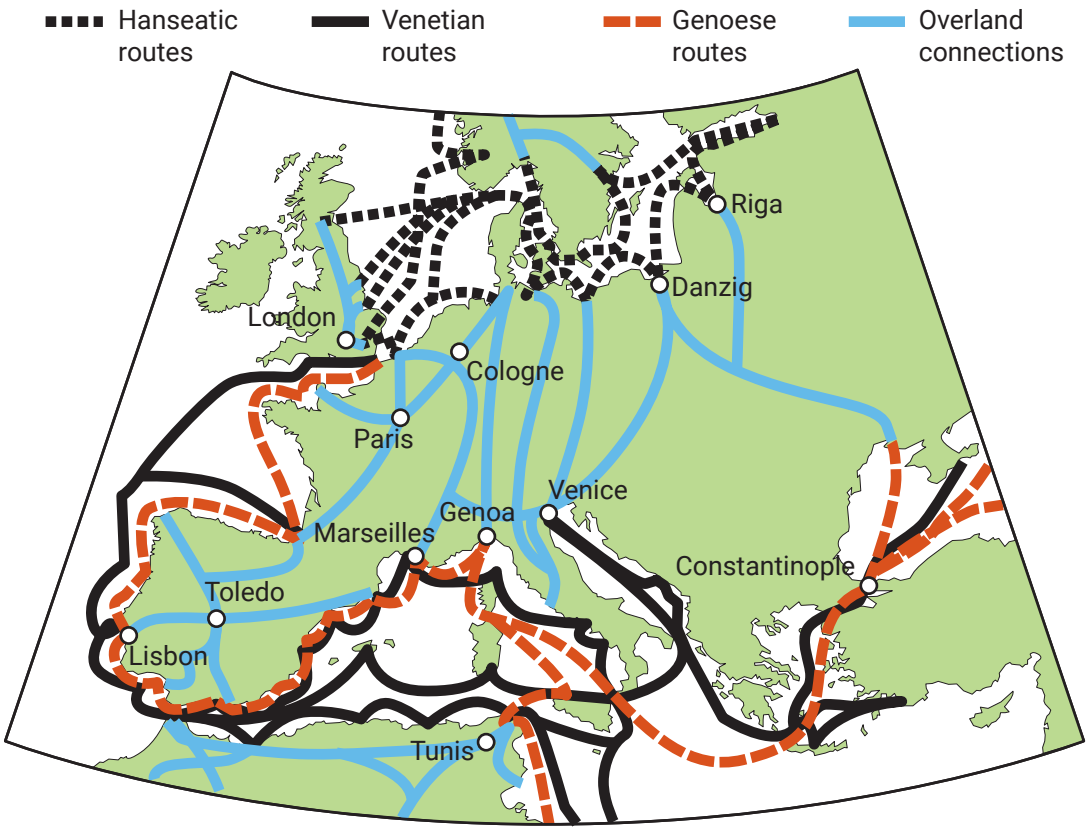
B


D


Medieval Trade

The following map shows three important ocean trade routes used by three different trading groups around Europe and North Africa in the fourteenth and fifteenth centuries. The map also shows overland connections.

Medieval Trade Routes



12 If a trader had goods in Tunis and wanted them transported to Marseilles, the most direct way that uses the least amount of ocean transport would be to transport the goods through

A Genoa.
B Venice.
C Lisbon.
D Constantinople.

13 Which one of the following cities had the same level of access to all three trading groups?

A Paris
B Tunis
C Toledo
D Danzig

Happiness

Consider the following quotation.

> 'The greatest part of our happiness depends on our character, not our circumstances'.

14 The quotation suggests that

A wealth brings happiness.

B happiness is difficult to attain.

C overcoming hardship brings happiness.

D a positive attitude is the key to happiness.

Railway Train

The following poem was written by an American poet in 1862. When first introduced, trains were sometimes referred to as 'iron horses'. Several words in the poem have been defined for you.

The Railway Train

I like to see it lap the miles,
And lick the valleys up,
And stop to feed itself at tanks;
And then, prodigious[1], step

Around a pile of mountains,
And, supercilious[2], peer
In shanties[3] by the sides of roads;
And then a quarry pare[4]

To fit its sides, and crawl between,
Complaining all the while
In horrid, hooting stanza[5]:
Then chase itself downhill

And neigh like Boanerges[6];
Then, punctual as a star,
Stop – docile and omnipotent[7] –
At its own stable door.

Emily Dickinson

[2] *arrogant*
[3] *shacks*
[4] *cut back*
[5] *verse*
[6] *a loud preacher*
[7] *all powerful*

15 It is suggested in lines 6 and 7 that the train perceives the shanties as

A hostile and unwelcoming.
B obstacles to its efficiency.
C backward and undeveloped.
D insufficiently respectful of its power.

16 'In horrid, hooting stanza' (line 11) most likely refers to the sounds made by the train's

A driver.
B wheels.
C whistle.
D passengers.

17 Which of the following best describes the speaker's overall reaction to the train?

The speaker is both

A fearful and pitying.
B distrustful and suspicious.
C amused and impressed.
D surprised and dumbfounded.

18 What seemingly **contradictory qualities** are attributed to the train?

The train is depicted as

A noisy but also shy.
B powerful but also obedient.
C enthusiastic but also bored.
D courageous but also anxious.

Vegetarian Debate

Six people were asked to respond to the statement:

All people should be vegetarian.

Below are their responses.

Diana

I try to convince my family that it's a good idea to eat vegetarian food, but all they do is complain when I serve them vegetables or some kind of meat substitute.

I love eating at vegetarian restaurants. The people who go to them are very interesting, and they will often talk about other issues too. It's inspiring.

Kikko

Manuel

We often overlook how much damage meat production causes to the environment.

We don't accept cannibalism within our society, so why on earth do we accept eating animals?

Anders

Hermione

Being a vegetarian, I know how difficult it is to convince people to switch to vegetarianism. People are loath to change their habits when it's for reasons that don't directly benefit them.

While there are strong arguments for being vegetarian, it's also important to get a balance of nutrients in your diet that cannot be achieved by eating vegetables alone.

Vijay

19 Of the following, whose response to the statement is best described as an attempt to cause shock?

A Diana's
B Hermione's
C Manuel's
D Anders'

20 Of the following, whose response is **least** relevant to the statement?

A Diana's
B Kikko's
C Manuel's
D Vijay's

21 In her response, Hermione implies that vegetarianism is

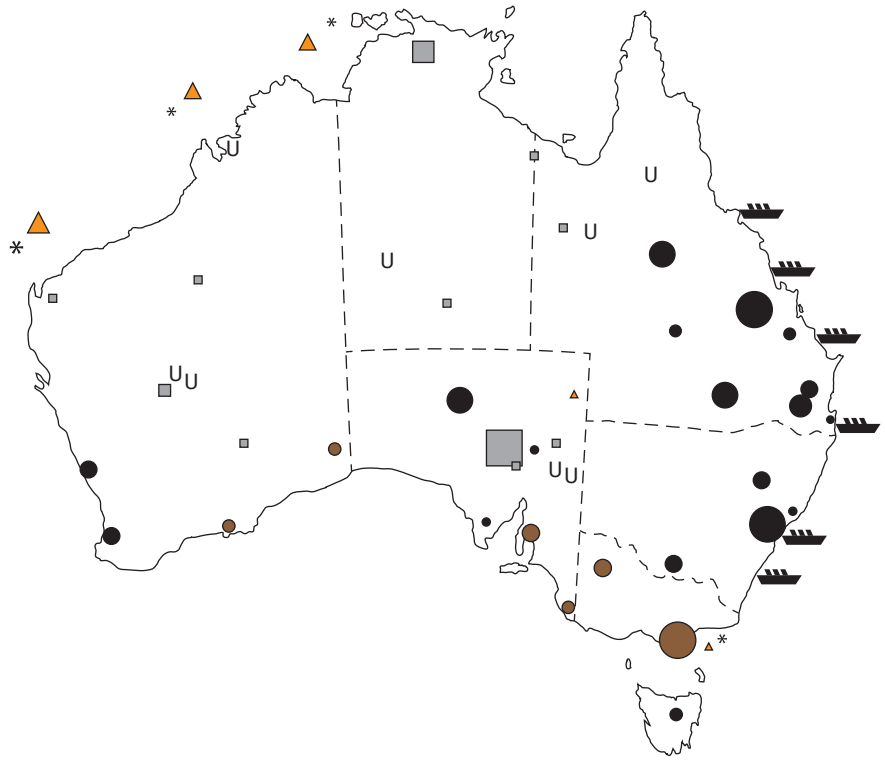
A an unreasonable expectation of people.
B based on acceptance of a moral argument.
C the best way for people to be physically healthy.
D really an obligation that people can no longer ignore.

22 Manuel's response relates to the idea that

A vegetarianism is not really an important issue.
B arguments in favour of vegetarianism focus on the wrong issue.
C there are many obstacles to the more widespread adoption of vegetarianism.
D the variety of meat products available makes vegetarianism less attractive to people.

Energy Resources

Australian non-renewable energy resources



Demonstrated resources

- Black coal
- Brown coal
- Conventional gas
- Uranium mines
- U Uranium deposits (not mined)
- Oil (crude, condensate, LPG)
- Major black coal ports

Resource size

Black coal	Brown coal	Gas	Uranium	Oil
•	•	▲	■	*
•	•	▲	■	*
•	•	▲	■	*
•	•	▲	■	*
•	•	▲	■	*
•	•	▲	■	*
•	•	▲	■	*

23 What does the map suggest about Australia's uranium resources?

A Uranium is found in all states.

B All known uranium deposits are being mined.

C Uranium resources are limited and close to depletion.

D There is plenty of uranium that is not being mined.

24 On the map, the major black coal ports are depicted as ships.

These ships suggest

A trade.

B exploration.

C off-shore mining.

D resource protection.

25 The map suggests that the state with the widest variety of onshore, non-renewable energy resources is

A Queensland.

B South Australia.

C Western Australia.

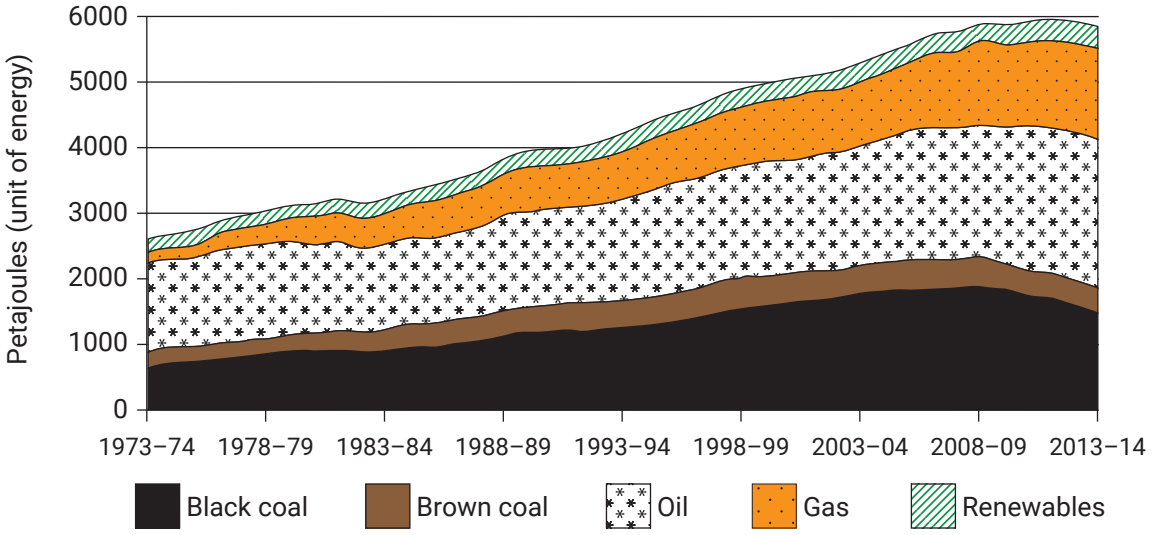
D New South Wales.

26 Based on the map, which one of the following correctly lists Australia's non-renewable energy resources from largest to smallest in terms of number of sites and size of resources?

	A	**B**	**C**	**D**
Largest ↓ Smallest	Oil Uranium Black/brown coal Gas	Uranium Black/brown coal Oil Gas	Black/brown coal Uranium Gas Oil	Black/brown coal Gas Uranium Oil

For questions 27–29, use the information in the graph below.

Australian energy consumption, 1973–2014



NOTE: The width of each band indicates the amount consumed. For example, the oil consumed in 1973–74 was approx. 1300 petajoules.

27 What does the graph indicate about energy consumption in Australia between 1973 and 2014?

A It has never declined.

B It has fluctuated widely.

C It has more than doubled.

D It has stayed much the same.

28 Which of the following most accurately summarises Australian energy consumption between 1973 and 2014?

A Oil and coal remain the dominant energy sources.

B Oil has replaced coal as the dominant energy source.

C Use of renewable energy has increased drastically since this resource was introduced in the 1980s.

D Renewable energy is gradually replacing traditional, non-renewable energy resources.

29 Consumption of which energy resource increased the most between 1973 and 2014?

A oil
B gas
C black coal
D renewable energy

For question 30, use the information in both the map and the graph.

30 Given the information in the map and graph, which of the following is most likely?

A Australia uses most of the uranium it mines.
B Australia is highly dependent on renewable energy.
C Australia buys most of its coal from other countries.
D Australia sells most of the uranium it mines to other countries.

Smile Quotations

Below are six quotations (I–VI) about smiles.

I A smile confuses an approaching frown.

II Some people wear their smile like a disguise.

III The shortest distance between two people is a smile.

IV A smile is the chosen vehicle of all ambiguities.

V The robbed that smiles, steals something from the thief.

VI There are hundreds of languages in the world, but a smile speaks them all.

31 Which one of the following quotations suggests that a smile unites people?

A I
B II
C III
D IV

32 Quotation I suggests that a smile can be

A generous.
B disarming.
C provocative.
D conventional.

33 Quotation II suggests that some smiles are

A attractive.
B deceptive.
C patronising.
D unambiguous.

34 Quotation V suggests that a person who smiles in adversity

A appears foolish.
B deserves to receive pity.
C suffers more than they deserve.
D doesn't let the experience defeat them.

35 Quotation VI suggests that a smile is

A changeable.
B meaningless.
C often misleading.
D immediately understood.

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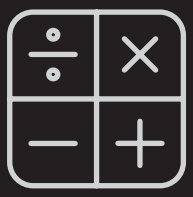
HAST

Higher Ability Selection Test



Mathematical Reasoning

PART 2

Instructions

- All answers must be made on your OMR Answer Sheet.
- Part 2 asks you to answer 35 questions on mathematics material.
- For each question you must choose the answer you think correct and mark its letter (**A**, **B**, **C** or **D**) on the OMR Answer Sheet in the Mathematical Reasoning section.
- Be sure that the question number on your OMR Answer Sheet corresponds to the number of the question you are answering.
- Do not spend too much time on any one question; you may come back to the difficult ones later if you have time.
- Use a grey lead pencil.
- If you think you know an answer, mark it even if you are not certain it is correct.
- If you decide to change an answer, erase it completely and mark your new answer.
- You may use your test book for working through the questions. Remember to enter your answers on your OMR Answer Sheet.
- You will have **45 minutes** to do Part 2. Once you start, keep working until you have finished all the questions or the supervisor tells you to stop.

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Phone code

Jaxon has forgotten his four-digit mobile phone passcode. A passcode can contain any of the digits 0–9. Digits can be repeated.

1 If Jaxon randomly enters four digits, what is the chance that he will enter the correct code?

A 1 in 1000
B 1 in 10 000
C 1 in 100 000
D 1 in 1 000 000

2 Jaxon remembers that the passcode contains the digits 1, 2, 3 and 4, but he cannot recall their order.

If Jaxon randomly enters these four digits, what is the chance that he will enter the correct code?

A 1 in 4
B 1 in 16
C 1 in 24
D 1 in 32

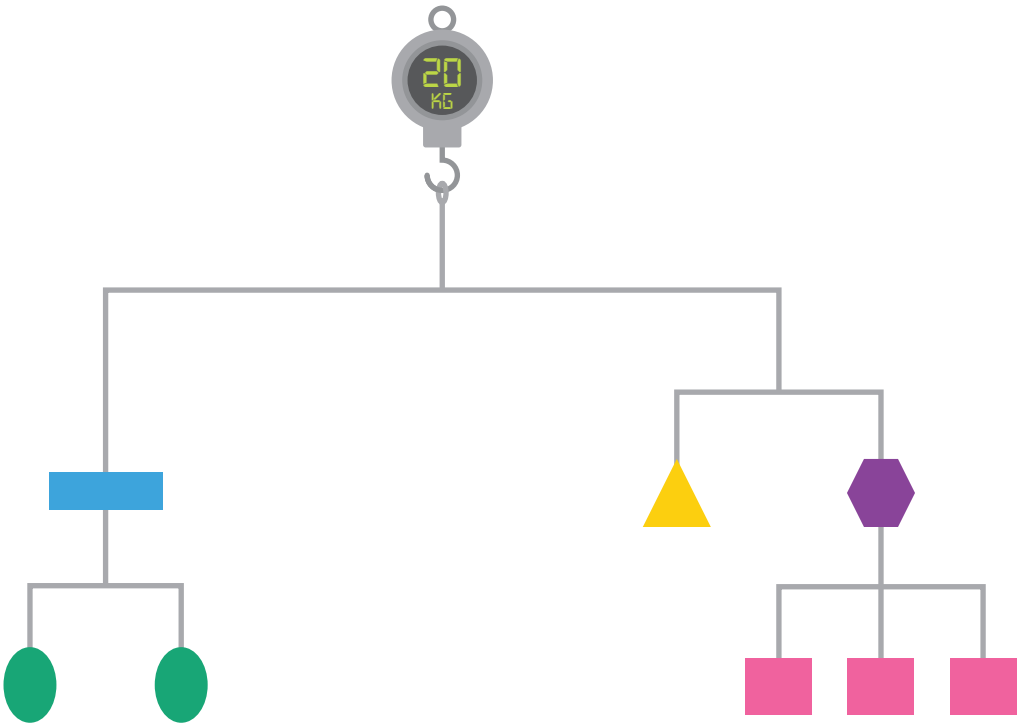
Balance

The figure shows a set of perfectly balanced weights hanging from a balance. The weights are connected by rods.

The total mass of the weights is 20 kilograms (kg).

All weights of the same shape have the same mass. Each shape has a different mass. All mass measurements are whole numbers.

Ignore the masses of the rods in the following questions.



3 What is the mass of the hexagon weight?

A 1 kg
B 2 kg
C 3 kg
D 5 kg

4 What is the mass of the oval weight?

A 3 kg
B 4 kg
C either 3 kg or 4 kg
D neither 3 kg nor 4 kg

Bouquets

Fred the florist makes bouquets (flower arrangements) using 12 different types of flower. The table shows each flower's colour and in which months it is available.

For example, flower R3 is red and is available all year.

Flower colour	Flower type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
red	R1	■	■	■	■								
	R2	■	■								■	■	■
	R3	■	■	■	■	■	■	■	■	■	■	■	■
orange	O1	■	■										
	O2	■	■	■							■	■	■
	O3			■	■	■	■	■					
yellow	Y1		■	■									
	Y2									■	■	■	■
	Y3	■	■										
blue	B1	■	■						■	■	■	■	■
pink	P1			■	■	■							
	P2			■	■	■	■	■	■				

5 In March, April and May, Fred makes the 'Jubilee bouquet', which has three different types of flower, each of a different colour.

Which of the following types of flower does Fred use for this bouquet?

A R3, P1 and P2

B R3, O3 and P1

C R1, O3 and P1

D R1, O2 and P2

6 How many colours, at most, can Fred use in a single bouquet of flowers?

A two

B three

C four

D five

7 A customer regularly orders bouquets that must have red, orange and yellow flowers (of any type).

During how many months of the year can Fred make such bouquets?

A three
B four
C six
D seven

8 The 'Sunshine bouquet' has O2, B1 and any type of yellow flower.

During how many months of the year can Fred make this bouquet?

A four
B five
C six
D seven

9 A customer orders bouquets for a wedding in October. Each bouquet must have three types of flower and each type of flower must be a different colour.

How many different bouquets can Fred make for this customer?

A three
B six
C seven
D ten

Missing Results

Four teams compete in a hockey tournament. During the tournament, each team must play every other team once. A team receives 2 points for a win, 1 for a draw and 0 for a loss.

The table shows the results after each team has played two games. The results for the Eagles are missing.

	Win	Draw	Loss	Points
Crocodiles	2	0	0	4
Dingoes	1	1	0	3
Eagles				
Sharks	0	0	2	0

10 What are the results of the two Eagles games?

A one win, one loss
B one win, one draw
C one draw, one loss
D two draws

11 Which of the teams can finish the tournament with the most points?

A Crocodiles
B Dingoes or Crocodiles
C Eagles, Crocodiles or Dingoes
D any of the four teams

FAST INTERNET

Computer data is made up of *bits*. The bits can be sent over an internet network along copper wire. The data is sent in *packets*.

Assume:

- each packet is 8000 bits in size
- packets are sent one at a time
- when sent along copper wire, packets are sent at an initial rate of 80 000 000 (80 million) bits per second
- if a packet fails to send, it is sent again instantly at half the initial rate. If it fails again, the rate is halved again, and so on.

12 About how many packets can be sent per second at the initial rate?

A 800
B 1000
C 10 000
D 80 000

13 One gigabit is 1000 million bits.

How long would it take to send an 8-gigabit file at the initial rate?

A 100 seconds
B 800 seconds
C 1000 seconds
D 8000 seconds

14 Suppose Madeleine sent a mesage:

- packet A sent on the first try
- packet B did not send until the third try.

Compared to packet A, how long, in **total**, did it take for packet B to send?

A twice as long
B four times as long
C five times as long
D seven times as long

Bark Beetles

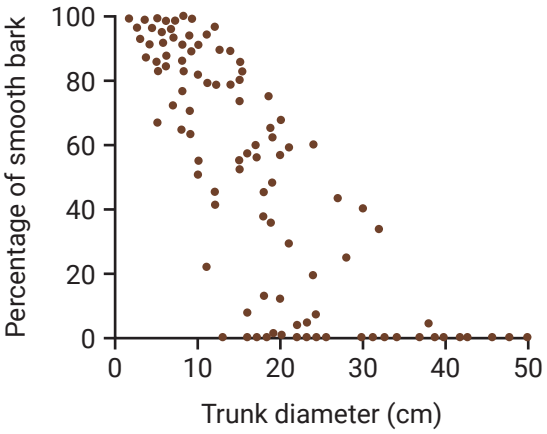
Pine trees can have smooth bark, rough bark or a mix of rough and smooth bark.

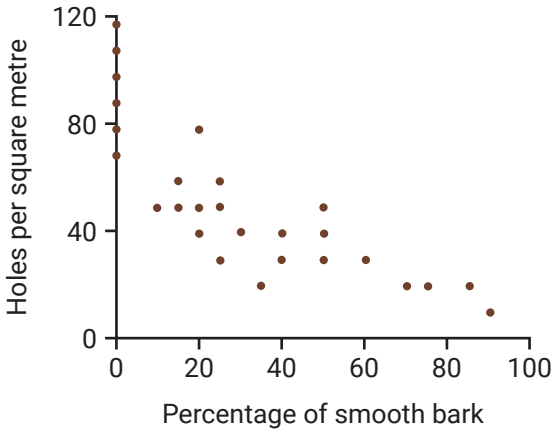
Some types of beetle feed on the wood of pine trees by tunnelling holes through the bark to reach the wood. This can kill the trees.

Researchers collected data on pine trees. For each tree they measured:

- the diameter of the tree's trunk
- the percentage of the tree's bark that was smooth
- the number of beetle holes in one square metre of the tree's bark.

The data is plotted in the following graphs. Each dot represents one tree.





15 A pine tree has 40 beetle holes per square metre.

Which measurement is the best estimate of the diameter of this tree's trunk?

A 15 cm

B 25 cm

C 35 cm

D 45 cm

16 Which statement is most consistent with the data in the graphs?

A All trees have both rough and smooth bark.

B Only the largest trees have all rough bark.

C Only the smallest trees have all smooth bark.

D Most pine trees have either rough bark or smooth bark, not both.

17 Which statement is most consistent with the data in the graphs?

A Beetles prefer to feed on smaller trees.

B Fewer beetles feed in trees with mostly smooth bark.

C The type of bark does not affect beetle feeding.

D Trees with a mix of bark types have the most beetles feeding on them.

18 A pine tree trunk has a diameter of 40 cm.

How many beetle holes per square metre is this tree expected to have?

A 80

B 120

C any number from 0 to 120

D any number from 70 to 120

19 Trees continue to grow throughout their lives.

Given this, the data in the graphs suggest that old pine trees are most likely to be

A rough with few holes.

B rough with many holes.

C smooth with few holes.

D smooth with many holes.

10 000 Steps

20 To get enough exercise for good health, it is sometimes recommended that people should walk 10 000 steps each day.

If a person walks 10 000 steps every day of their adult life and live to be 100 years old, which of the following is the best estimate of how far they would walk in their lifetime?

A 1500 kilometres

B 15 000 kilometres

C 150 000 kilometres

D 1 500 000 kilometres

Sock drawer

Lance has 10 black socks, 10 red socks and 10 blue socks mixed up in a drawer. The socks are identical except for their colours. There are no other socks in the drawer.

Lance pulls socks out of his sock drawer at random and without looking.

21 What is the smallest number of socks Lance must take out of the drawer to be sure of having a matching pair?

A 3
B 4
C 10
D 11

22 What is the smallest number of socks Lance must take out of the drawer to be sure of having a red pair?

A 10
B 12
C 20
D 22

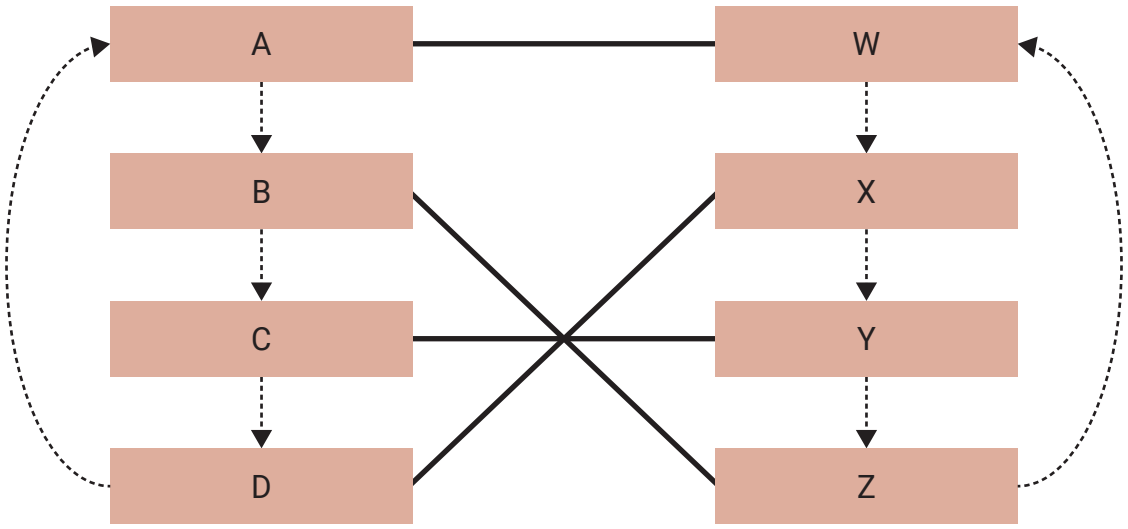
23 What is the smallest number of socks Lance must take out of the drawer to be sure of having a pair of each colour?

A 20
B 21
C 22
D 23

Warlpiri Kinship

The kinship system of the Warlpiri people of Central Australia includes eight *skin groups* that indicate how people are related to each other.

The figure below represents how the system works. Skin groups are represented by the letters A–D and W–Z. Marriages are preferred between certain skin groups, as indicated by the solid lines in the figure. The skin group to which children belong depends on their mother's skin group, as indicated by the dashed arrows in the figure.



For example:

- people from skin group A marry people from skin group W, and vice-versa
- if a mother belongs to skin group A, her children would belong to skin group B
- if a mother belongs to skin group Z, her children would belong to skin group W.

In the questions, assume all relationships follow the system shown.

Note: In these questions, Anglo-Australian terms such as 'mother' and 'brother' are used to describe family relationships. We acknowledge that these can differ from the ways in which many First Nations Australians describe family relationships.

24 Consider a man who belongs to skin group X.

His mother's mother belongs to

A skin group A.
B skin group D.
C skin group W.
D skin group Z.

25 Suppose a person belongs to skin group C. A son of this person would belong to

A skin group D.
B skin group Z.
C either skin group D or skin group Z.
D neither skin group D nor skin group Z.

26 If a person belongs to skin group Z, any children of their mother's brother would belong to

A skin group C.
B skin group D.
C skin group Y.
D skin group Z.

27 A Warlpiri man with grandchildren can belong to the same skin group as

A his grandson, but not his granddaughter.
B his granddaughter, but not his grandson.
C both his grandson and his granddaughter.
D neither his grandson nor his granddaughter.

Tours

A travel company offers six different **10-day** tours. The tours are all based on the same **7-day** cycle of visits to seven cities. Each tour starts from a different point in the cycle, and the cycle starts again on Day 8 of each tour.

The table gives the schedule for the first three days of each tour. For example, tour **VI** visits Sakawa on Day 3.

Tour	Day 1	Day 2	Day 3
I	Sakawa	Mibu	Atsuma
II	Mibu	Atsuma	Kawara
III	Atsuma	Kawara	Yura
IV	Kawara	Yura	Ikeda
V	Yura	Ikeda	Omachi
VI	Ikeda	Omachi	Sakawa

28 Which city does tour **I** visit on Day 7?

A Sakawa
B Yura
C Omachi
D Ikeda

29 How many of the tours visit the same city more than once?

A none
B one
C three
D all six

30 After Day 3, when will tour **VI** next visit Sakawa?

A Day 4
B Day 6
C Day 10
D This tour will not visit Sakawa twice.

31 Which is the only city **not** to be visited on Day 10 of a tour?

A Sakawa
B Mibu
C Ikeda
D Omachi

Hot air

When cows digest food, they produce the greenhouse gases methane and carbon dioxide.

Supplements added to the feed of cows may reduce the amount of these gases produced.

Agricultural scientists designed a study to test a supplement made from seaweed. In the study, three different amounts of the supplement were added to each of three different diets. These diets contained low, medium or high amounts of *forage* (e.g. grasses).

Cows from one herd were divided into groups of 10. Each group was fed one of the combinations of diet and supplement for two weeks. During the **second** week, the scientists measured the amount of each gas produced each day by each cow.

The average results for each group are shown in Table 1 and Table 2.

Table 1: Average daily amount of **methane** produced per cow (grams, g)

		Diet		
		low forage	**medium forage**	**high forage**
Amount of seaweed supplement	none	150 g	240 g	240 g
	low	40 g	120 g	150 g
	high	30 g	30 g	100 g

Table 2: Average daily amount of **carbon dioxide** produced per cow (grams, g)

		Diet		
		low forage	**medium forage**	**high forage**
Amount of seaweed supplement	none	7600 g	8400 g	7400 g
	low	7800 g	8300 g	7400 g
	high	7700 g	8450 g	7350 g

32 The results suggest that the seaweed supplement always decreases the production of

A methane only.
B carbon dioxide only.
C both methane and carbon dioxide.
D neither methane nor carbon dioxide.

33 Consider the group of 10 cows fed the combination of high forage and high supplement.

How much methane, in total, did this group produce in the second week?

A 4900 g
B 7000 g
C 49 000 g
D 70 000 g

34 The scientists measured gas production during only the second week to

A determine the effect of not adding the supplement.
B reduce the number of measurements they would have to take.
C let the digestive systems of the cows adjust to the supplement.
D reduce the amount of greenhouse gases produced.

35 Compared to a diet with no supplement, for which diet(s) did the high supplement appear to have the greatest effect on methane production?

A low forage
B medium forage
C high forage
D low and medium forage equally

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HAST

Higher Ability Selection Test

Abstract Reasoning

PART 3

Instructions

- All answers must be made on your OMR Answer Sheet.
- Part 3 asks you to look at patterns of shapes and shadings. There are three types of question. Examples and instructions are given at the start of the test.
- There are 30 questions in total.
- For each question you are given four or five possible answers marked **A**, **B**, **C**, **D** or **E**. You must choose the answer you think correct and mark its letter (**A**, **B**, **C**, **D** or **E**) on the OMR Answer Sheet in the Abstract Reasoning section.
- Be sure that the question number on your OMR Answer Sheet corresponds to the number of the question you are answering.
- Do not spend too much time on any one question; you may come back to the difficult ones later if you have time.
- Use a grey lead pencil.
- If you think you know an answer, mark it even if you are not certain it is correct.
- If you decide to change an answer, erase it completely and mark your new answer.
- You may use your test book for working through the questions. Remember to enter your answers on your OMR Answer Sheet.
- You will have **30 minutes** to do Part 3. Once you start, keep working until you have finished all the questions or the supervisor tells you to stop.

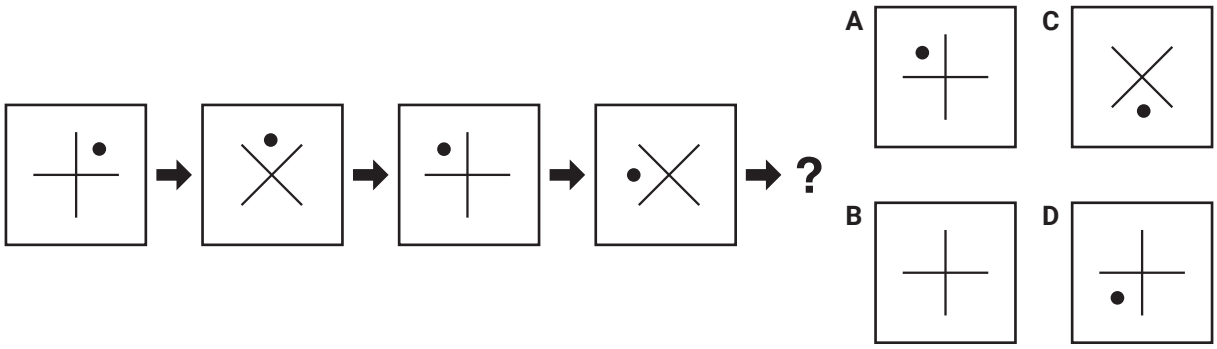
DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD

INSTRUCTIONS

Next in Sequence: Questions 1 to 10

In these questions, you need to identify which of **A**, **B**, **C** and **D** most logically and simply comes next in the sequence.

In this example, from one frame to the next, the pattern consisting of the cross and the dot rotates anticlockwise by 45°. Therefore, the answer is **D**.



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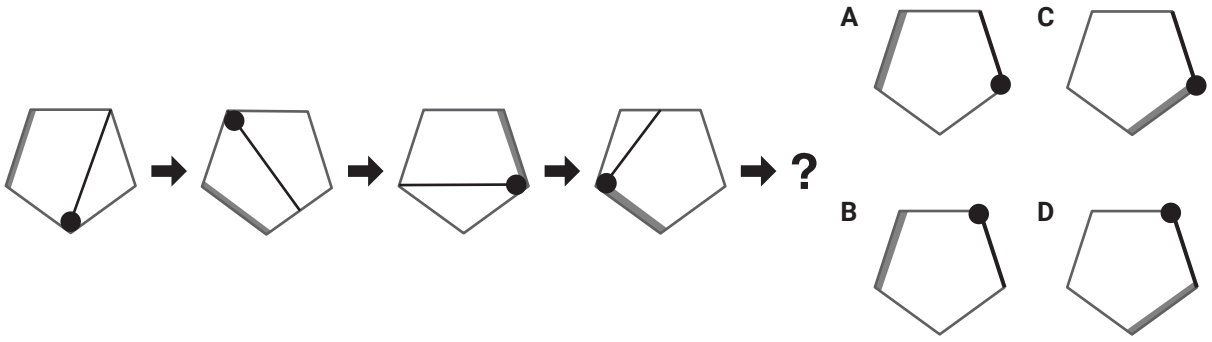

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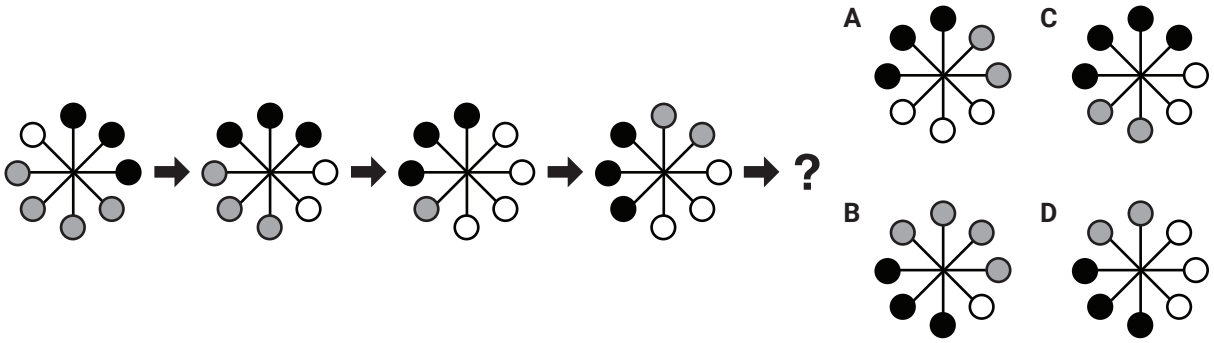

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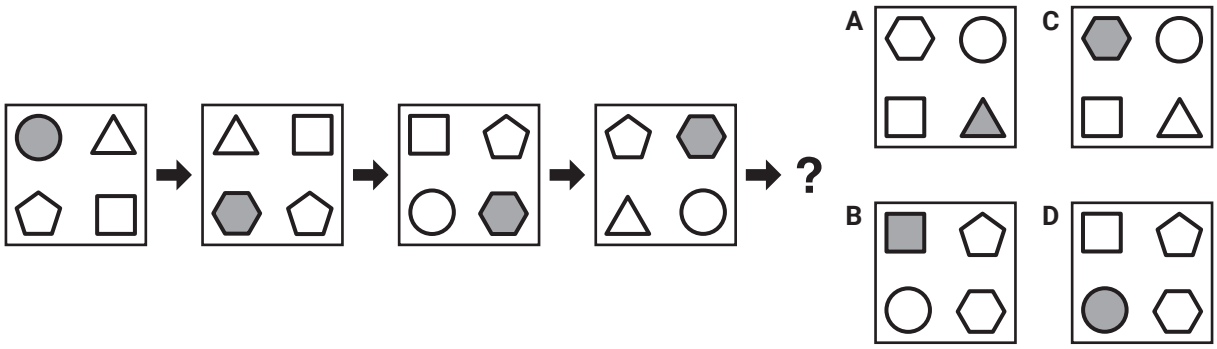

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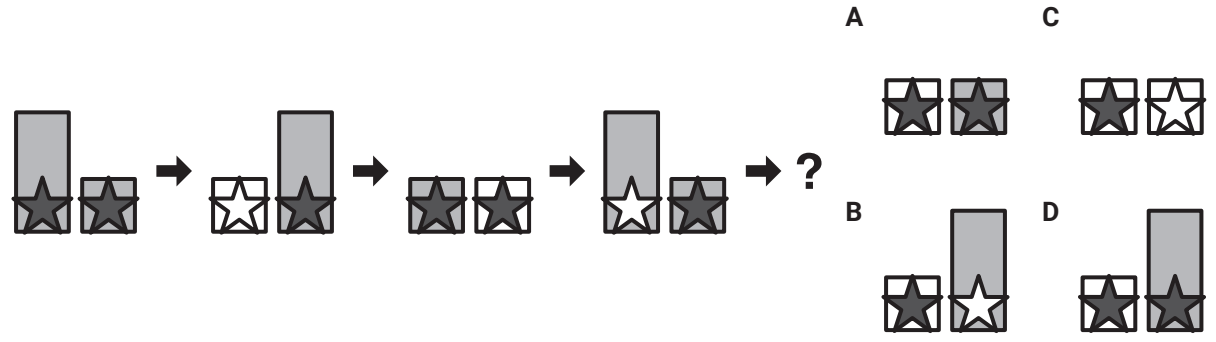

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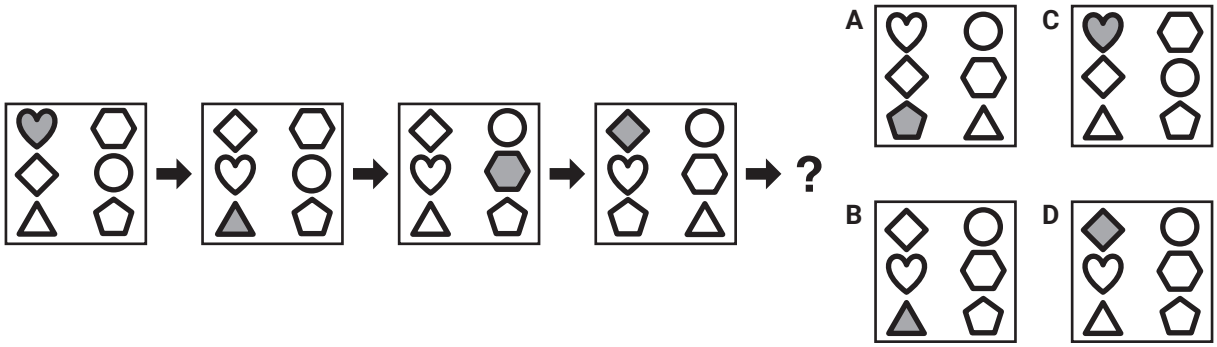

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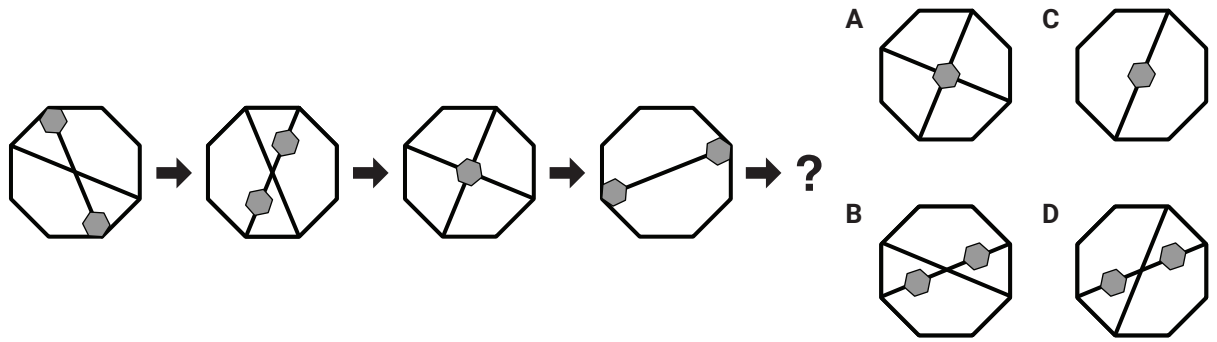

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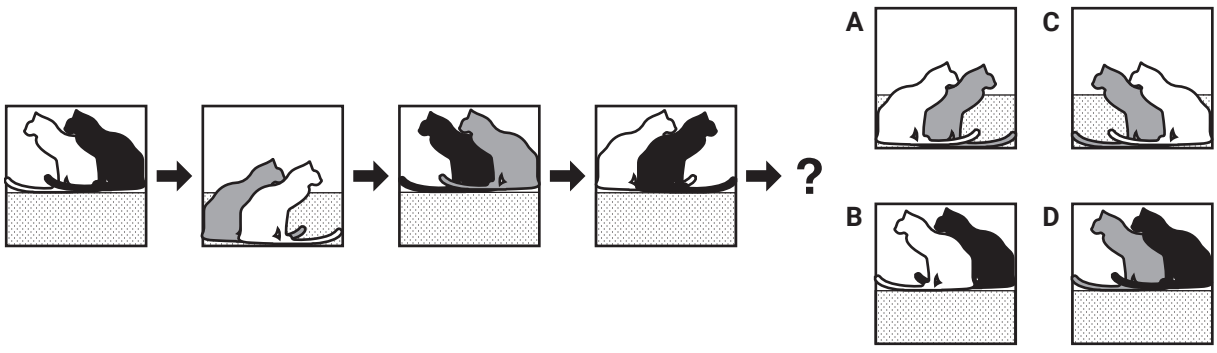

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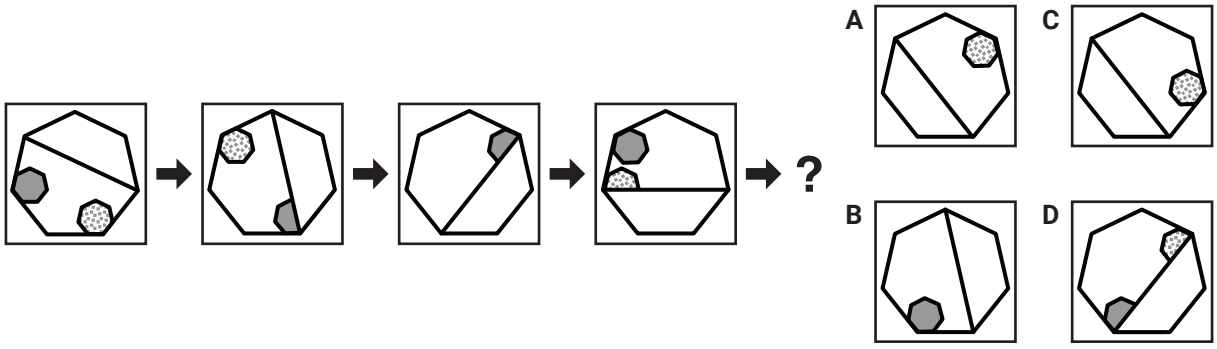

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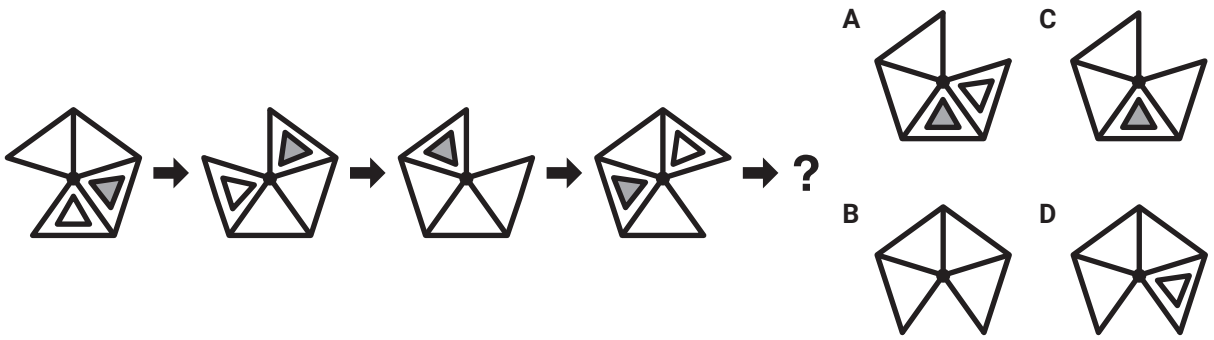

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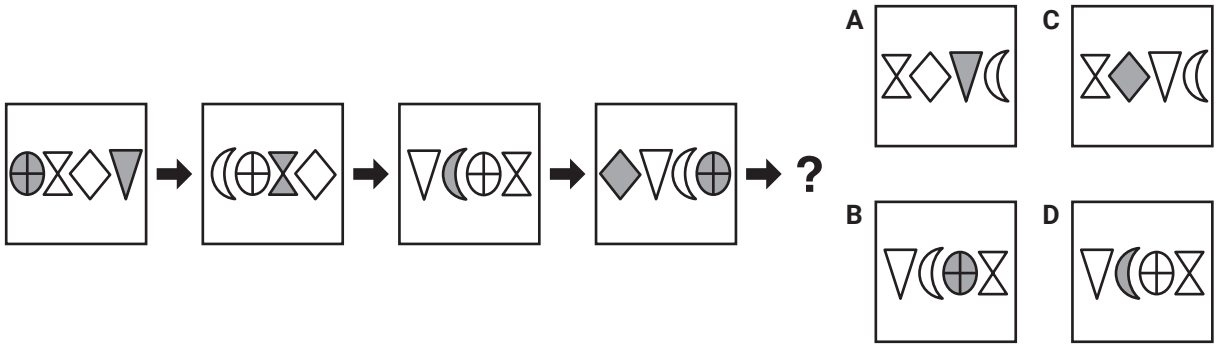


INSTRUCTIONS

Middle of Sequence: Questions 11 to 20

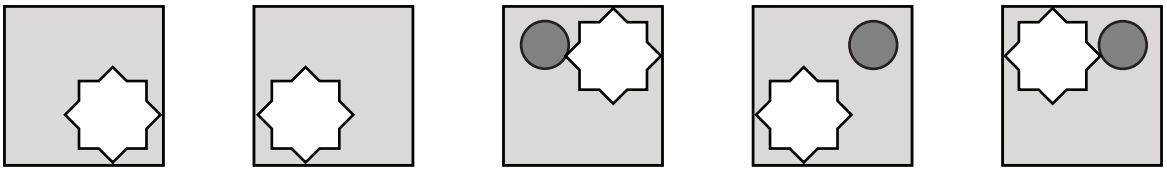
In these questions, you need to arrange the five frames to form the simplest logical sequence.

Then you must select the alternative (**A**, **B**, **C**, **D** or **E**) that is in the **middle** of the sequence.

In this example, the number of figures increases from 1 to 5, giving the sequence **E**, **B**, **D**, **A**, **C** (or **C**, **A**, **D**, **B**, **E**). Therefore, the answer is **D**.

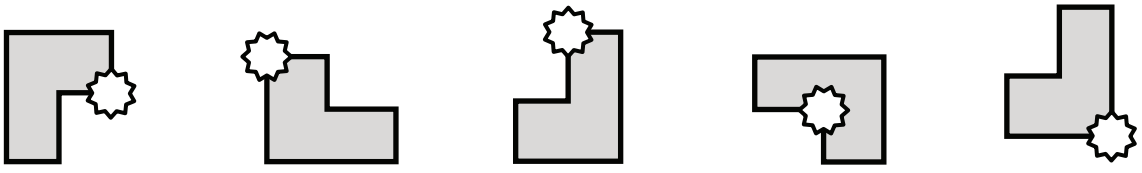
A **B** **C** **D** **E**

11



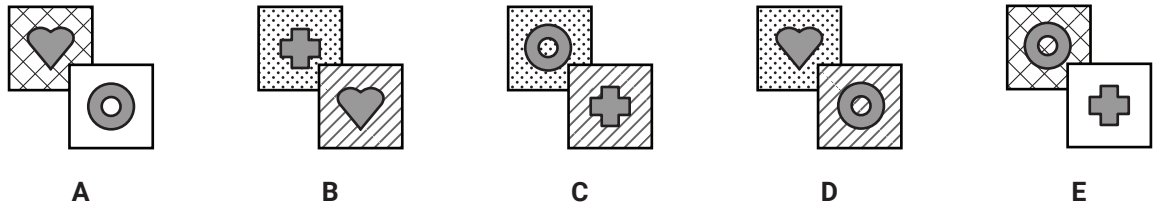
A **B** **C** **D** **E**

12



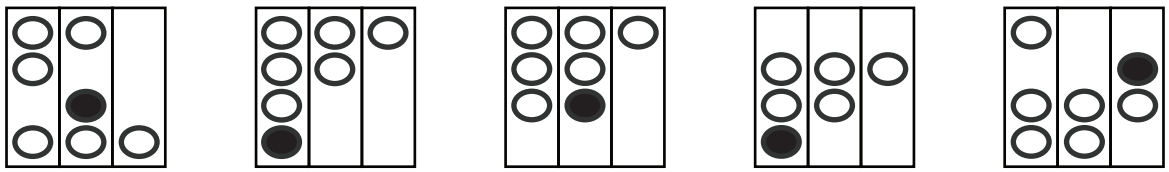
A **B** **C** **D** **E**

13



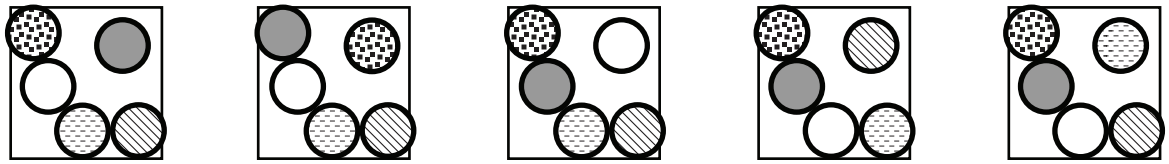
A B C D E

14



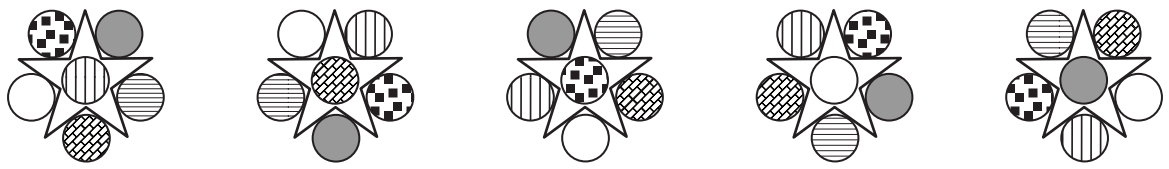
A B C D E

15



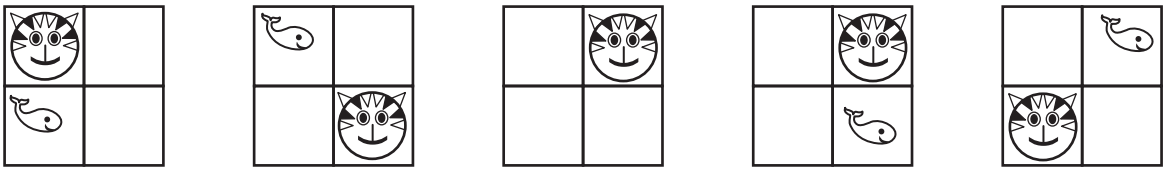
A B C D E

16



A B C D E

17

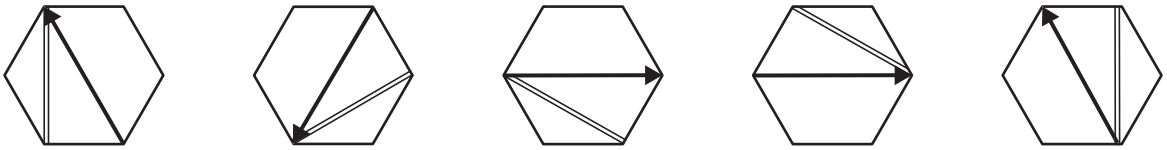


A B C D E

18

A B C D E

19



A B C D E

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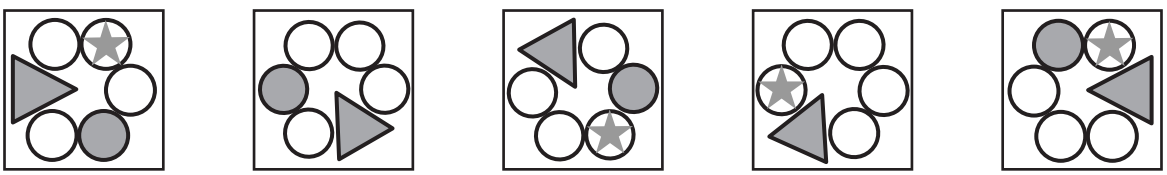


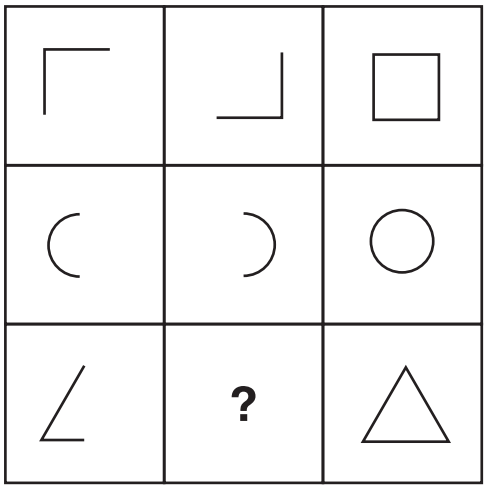
A B C D E

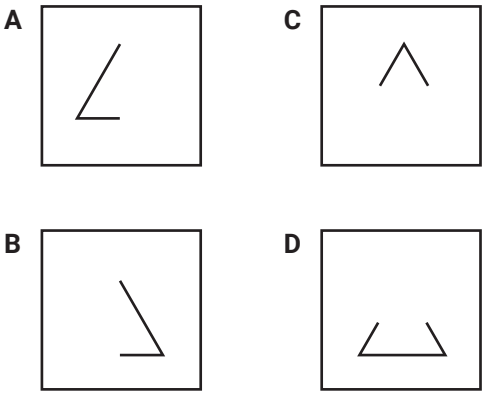
INSTRUCTIONS

Complete the Pattern: Questions 21 to 30

In these questions, you need to identify which of **A**, **B**, **C** and **D** fits most logically and simply into the space with the question mark (**?**)

In this example, the shape in the box at the right end of each row is made by combining the shapes in the other two boxes of the row. Therefore, the answer is **B**.





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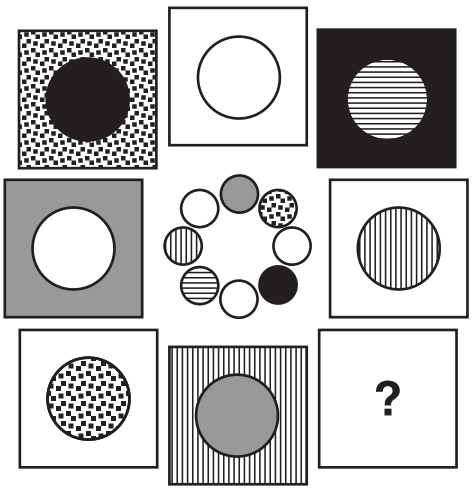

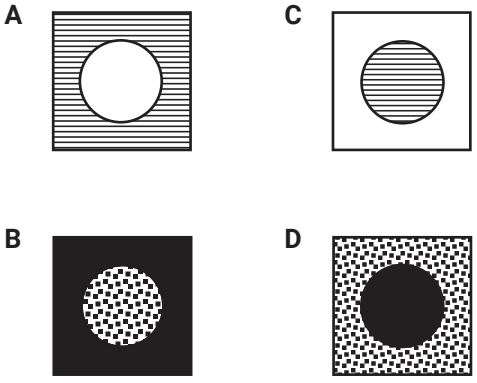

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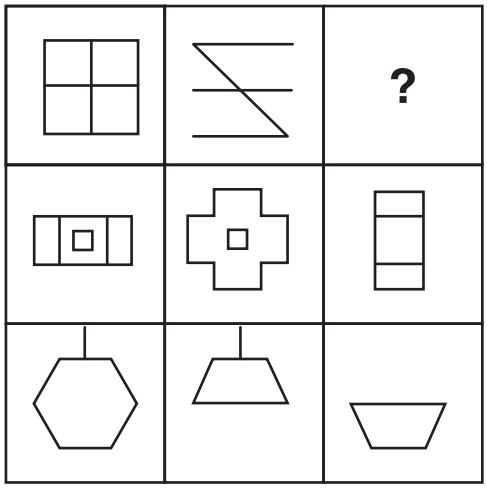
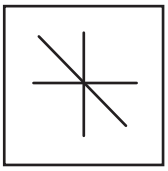


A 

C 

B 

D 

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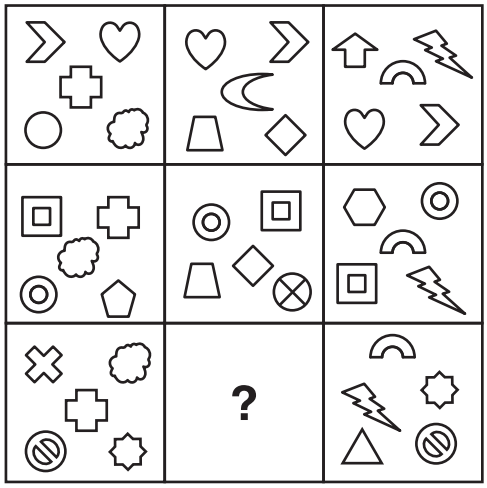
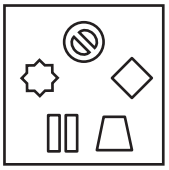
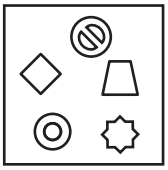
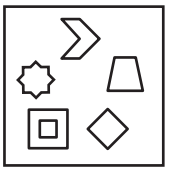
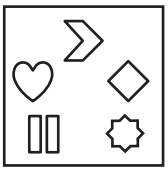


A 

C 

B 

D 

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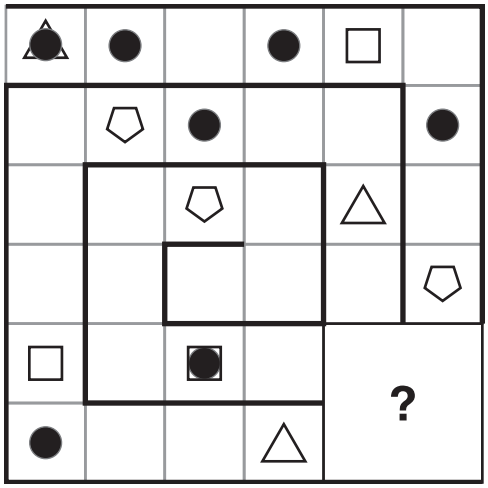
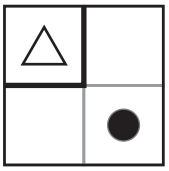
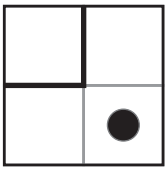
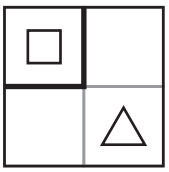
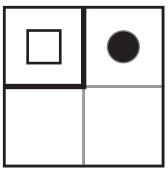


A 

C 

B 

D 

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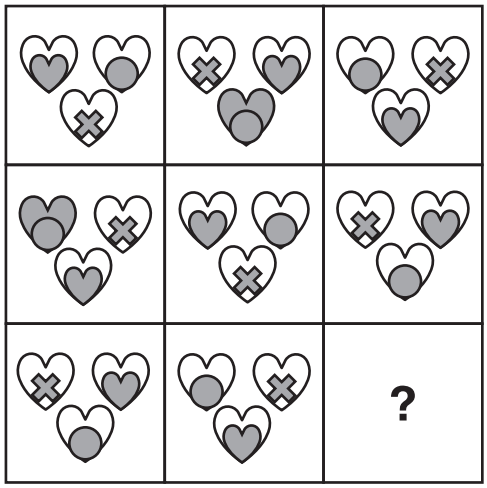
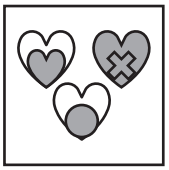
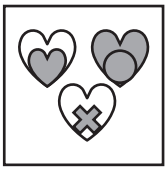
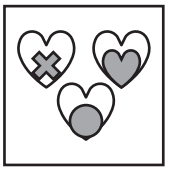
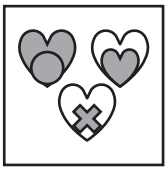


A 

C 

B 

D 

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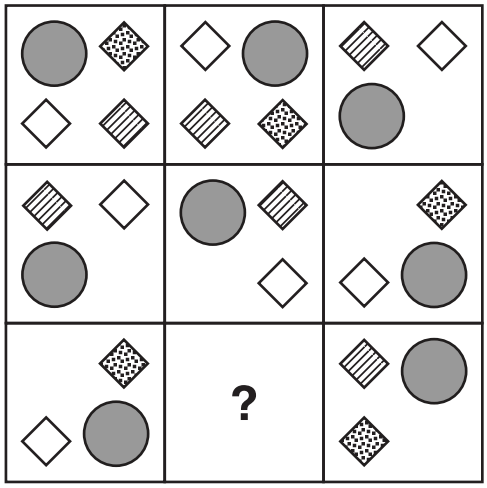
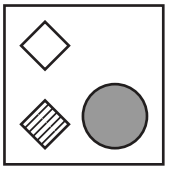
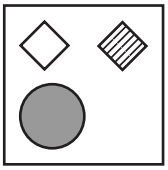
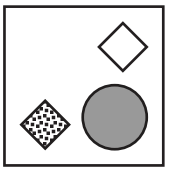
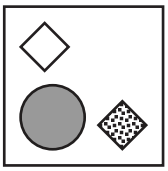


A 

C 

B 

D 

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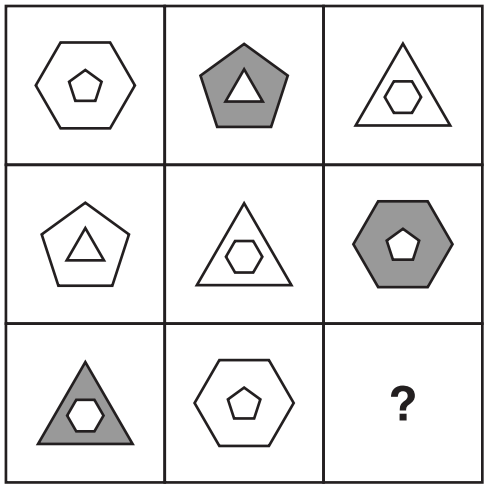

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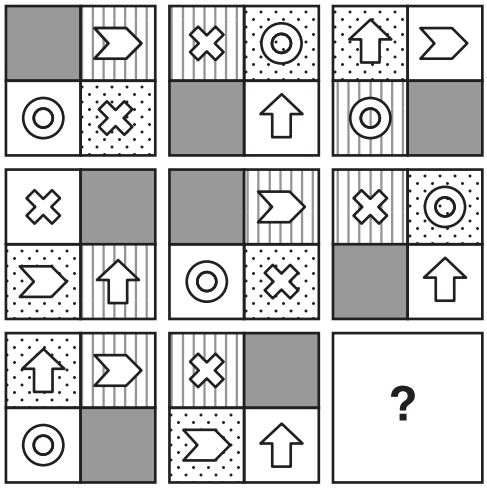
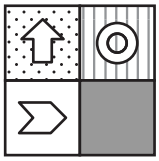
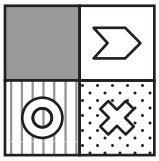
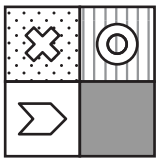


A 

C 

B 

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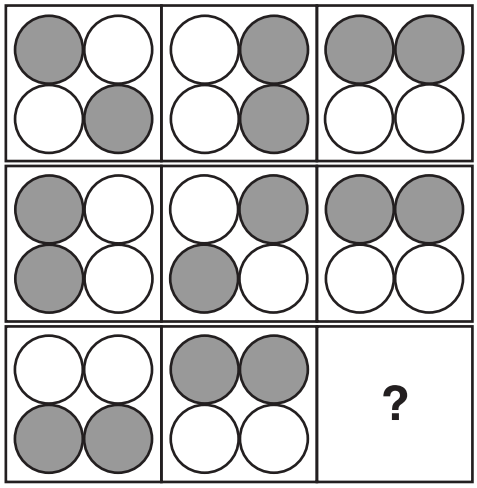
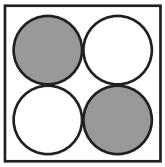
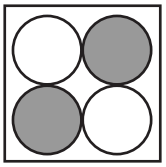
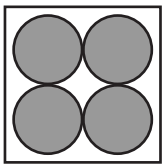
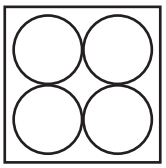


A 

C 

B 

D 

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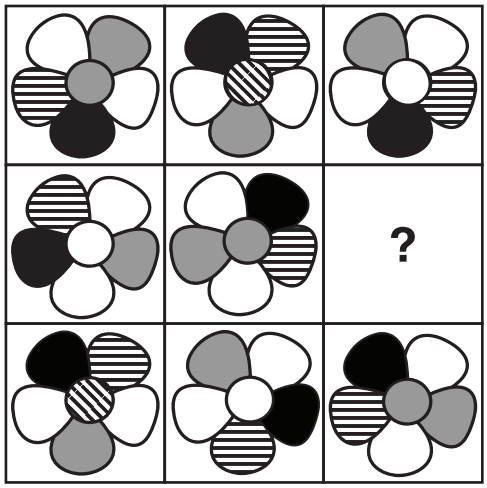
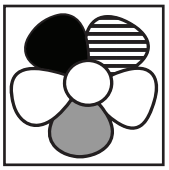
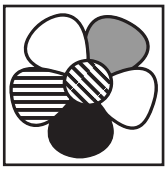
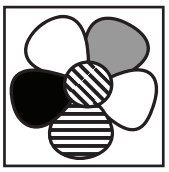
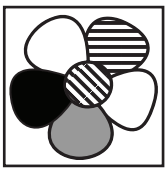


A 

C 

B 

D 

HAST

Higher Ability Selection Test

Written Expression

PART 4

Instructions

- This sheet contains a writing task. You have **25 minutes** to plan and write your response.
- Use a black or blue pen to write.
- When you are given the signal, turn this page over and read the topic. Think about how you will respond to the topic. There is planning space in the answer booklet.
- The amount you write is not as important as your ideas and the way you express them.
- If you finish the task before time is up, check your work.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD

Use the following idea as the basis for a piece of writing.

Your piece of writing will be judged on what you have to say, how well you organise what you have to say, and how clearly and effectively you express yourself.

It's a waste of our valuable time trying to stay tidy.

I say, 'Long live mess!'

Do you agree?

What is your experience of 'mess'?

Use the following image as the basis for a piece of writing.

You may write in any style.

Your piece of writing will be judged on what you have to say, how well you organise what you have to say, and how clearly and effectively you express yourself.

Answers to multiple-choice questions

Reading Comprehension

1	**C**	11	**C**	21	**B**	31	**C**
2	**A**	12	**C**	22	**B**	32	**B**
3	**A**	13	**A**	23	**D**	33	**B**
4	**D**	14	**D**	24	**A**	34	**D**
5	**A**	15	**C**	25	**B**	35	**D**
6	**B**	16	**C**	26	**C**		
7	**B**	17	**C**	27	**C**		
8	**A**	18	**B**	28	**A**		
9	**B**	19	**D**	29	**B**		
10	**D**	20	**B**	30	**D**		

Mathematical Reasoning

1	**B**	11	**B**	21	**B**	31	**B**
2	**C**	12	**C**	22	**D**	32	**A**
3	**B**	13	**A**	23	**C**	33	**B**
4	**A**	14	**D**	24	**D**	34	**C**
5	**B**	15	**B**	25	**C**	35	**B**
6	**C**	16	**C**	26	**B**		
7	**C**	17	**B**	27	**C**		
8	**B**	18	**D**	28	**C**		
9	**C**	19	**B**	29	**D**		
10	**C**	20	**C**	30	**C**		

Abstract Reasoning

1	**B**	11	**C**	21	**A**
2	**B**	12	**A**	22	**B**
3	**C**	13	**B**	23	**A**
4	**D**	14	**E**	24	**C**
5	**A**	15	**C**	25	**C**
6	**B**	16	**A**	26	**D**
7	**C**	17	**A**	27	**D**
8	**A**	18	**E**	28	**C**
9	**D**	19	**B**	29	**B**
10	**A**	20	**D**	30	**B**