## GRAMMAR SCHOOL ENTRANCE TESTS FAMILIARISATION GUIDE

This guide tells you about the different types of questions gou will be asked when you take the test for real. It will also help you to understand how to use an answer sheet correctly.
You may print copies of this book, for your own use, to practise answering questions and marking your answers on the answer sheet.

## MATHS

## What equipment are you allowed to use in the test?

You will be allowed to use these things in the test:

- an HB pencil
- a rubber
- a pencil sharpener

You will NOT be able to use any of the following things in the test:

- a ruler
- a calculator
- scrap paper
- a protractor
- a mobile phone
- a camera
- a watch
- any electronic devices
- recording equipment or study notes

Please note: practice materials available in book shops or for sale on the Internet are not genuine CEM resources. This guide is the only official CEM resource available for this assessment.

## The test booklets

In the real test, you will be asked to work through two question booklets.
You must read the questions in these booklets and then mark your answers on a separate answer sheet. Examples of these booklets and answer sheets are included towards the end of this guide.

## A question booklet <br> will look like this.

 Booklet One

Write your full name here:

You will be asked to write your name on the front cover of the question booklet.
vG: THIS PAPER AND ITS CONTENTS ARE COPYRIGHT PROTECTED. ANY UNAUTHORISED REPRODUCTION, MO RANSMISSION OR PUBLICATION OF THIS PAPER OR ANY CONTENT CONTAINED HEREIN IS ILLE HE COPYRIGHT HOLDER RESERVES THE RIGHT TO TAKE FORMAL LEGAL ACTION AGAINST ANYONE FUUND OCOPIED, REPRODUCED OR PUBLISHED (INCLUDING VIA ANY THIRD PARTY WEBSITE BY ANY MEANS), OR IN WHOLE OR IN PART, IN ANY FORM OR BY ANY MEANS. ALL RIGHTS ARE RESERVED. FAILURE TO COMPLY ESTABLISH PERSONAL LIABILITY AGAINST THE OFFENDER AND THE COPYRIGHT HOLDER RESERVES THE ETION AGAINST ANY INDIVIDUAL FOUND TO BE IN BREACH OF THIS WARNING. SUCH ACTION MAY GIVE RISE PENALTY OR CRIMINAL PROSECUTION booklet will look like this. Practise writing your name in this box now.

[^0]
## The answer sheets

The answer sheet will have your name and some information about you already printed on it. Check that the information shown is correct.



## Information about using the question booklets

Each page of the question booklet will have information to help you shown on it.

- The page number is in the top corner of each page.
- The title of each section is shown on the top line of each page.

5
Maths

Instructions at the bottom of the pages include the following symbols and words to explain what you need to do:


You will also be given instructions about what to do before the test starts by a voice recording, which may be played through a CD player or a computer. Sometimes an adult in the room may read the instructions to you.

## What kind of questions are in the question booklets?

In the test, it will take about an hour to answer the questions in each booklet.
There are a number of sections in each booklet. You may be asked questions about reading, sentences, words and their meanings, mathematics and you will also be asked to solve some shape puzzles.
Each section starts with some examples, showing how to answer the different types of questions.

Example questions
are numbered using
Roman numerals
from i up to vi.

| Roman <br> numeral | number |
| :---: | :---: |
| i | 1 |
| ii | 2 |
| iii | 3 |
| iv | 4 |
| v | 5 |
| vi | 6 |

Please note, these numbers will be read-out on the voice recording as 'one', 'two', 'three' etc.
Within each section, you can look back to the example page as often as you wish.
The time available to answer the questions is shown at the start of each section, at the bottom of the example page.
roweme 20
minutes for this section.

## How to answer the questions

The heading of the section you are working on in the question booklet will be the same on the answer sheet.


You must make sure that you mark your answers in the CORRECT SECTION of the answer sheet.


## Take care!

If you miss out an answer, remember to leave a gap and mark your next answer on the correct line.

## Remember:

In the real test, you will be given a separate answer sheet for each question booklet.
You DO NOT mark your answers in the question booklet. Following the real test, a computer is used to mark your answer sheets, your question booklets will not be marked, so it is not a good use of your time to be writing answers into the question booklets.

Mark your answers carefully with one straight line, using a pencil


Mark only one answer on each line.
If you don't know an answer, move-on, but take care to mark your next answer on the correct line.
If you make a mistake, or change your mind, rub-out your answer carefully and clearly mark the new answer.

## What will a Maths section be like?

The maths sections test your ability to solve problems which will require you to use your knowledge of addition, subtraction, division and multiplication to answer them. In the real test, there are likely to be 2 maths sections.

## Maths 1 questions: Examples

- At the beginning of the Maths 1 exercise, there are four examples which explain the two methods of answering the maths questions.
- The first 12 questions ask for a 2-digit answer


| 4 | page 16 |  |
| :---: | :---: | :---: |
|  |  |  |
|  | $\mathrm{CO}_{7}$ | -07 |
|  | ¢1 | 51 |
|  | ¢2 | -2 |
|  | -3- | -3- |
|  | -47 | -47 |
|  | -5 | -5 |
|  | $6^{6}$ | -67 |
|  | ¢7 | -7] |
|  | -8] | -8] |
|  | -9 | -9] |



- The next 12 questions ask you to choose your answer from 5 options, the choices are labelled $\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}$ and E .


## Have a look at Examples i. and ii.

## Example i.

What is $18-15$ ?
The answer is 3 .
The answer 3 has been completed for you on your answer sheet.
The number 3 is written as ' 03 ' in the top boxes and the matching digits ' 0 ' and ' 3 ' are marked in the boxes below.


- In Example ii. the answer boxes have been left empty for you to practise marking your answer.


## Example ii.

What is $4 \times 3$ ?
The answer is 12 .
Mark the boxes and write the answer on your answer sheet.
Remember to write the number in the spaces at the top of the boxes AND mark the matching digit below each number.

## Try marking your answer here:

- write 1 in the first top box and 2 in the second box
- next, mark a line across 1 in the tens column
- then, mark a line across 2 in the units column
- In the real test there may also be 3-digit answer boxes, which include a hundreds column.



## Have a look at Examples iii. and iv.

- In examples iii. and iv. you are asked to solve a maths problem and then to choose your answer from 5 options, the choices are labelled A, B, C, D and E.
- Once you have worked out the answer to the problem, find your answer in the table and take note of which letter appears above it.


## Example iii.

What is $20+21$ ?
Choose one option from $A-E$ to answer the question.

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 40 | 41 | 42 | 43 | 44 |

The answer is: |  | $B$ |
| :---: | :---: |
|  |  |

The answer B has been marked for you on your answer sheet.

- The answer has not been marked in for Example iv. Try to answer the question and then mark in the correct answer.


## Example iv.

Which of these numbers is an even number and is greater than 15 ?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 11 | 14 | 19 | 22 | 27 |

The answer is: | D |
| :---: |
|  |

Mark the box with the letter $D$ on your answer sheet.

- As the letter ' $D$ ' appears above the correct answer, mark a line across ' $D$ ' here.


## How long will you have to answer the Maths questions?

In this exercise there are 24 questions to answer. You will have 20 minutes to answer the questions in this section.

In the real test you will be told how long you have to answer the questions in a section by a message in the question booklet like this:


You have 20 minutes for this section.

The recorded voice instructions will also provide you with a reminder.

## Helpful things to remember

You can write in the question booklet to help you work out the answer, but you must remember to mark your answer on the answer sheet using a pencil.
The question booklet will NOT be marked, so don't spend too much time writing in it, use it for making quick calculations only.
Some of the questions will include simple diagrams. These are not drawn to scale, so do NOT try to measure lengths or angles from them; they are there for information only.
If you are unable to answer a question, move-on to the next question. If you have time at the end you can always come back and try again.

## Take care!

If you miss a question out, remember to mark the answer to the next question on the correct line of your answer sheet.

Go to the next page.


## Example i.

What is $18-15$ ?
The answer is 3 .
The answer 3 has been completed for you on your answer sheet.
The number 3 is written as ' 03 ' in the top boxes and the matching digits ' 0 ' and ' 3 ' are marked in the boxes below.

## Example ii.

What is $4 \times 3$ ?
The answer is 12 .
Mark the boxes and write the answer on your answer sheet.
Remember to write the number in the spaces at the top of the boxes AND mark the matching digit below each number.

Remember, your test is marked by a computer and it can only record the marked boxes.

## Example iii.

What is $20+21$ ?
Choose one option from $A-E$ to answer the question.

| A | B | C | D | $E$ |
| :---: | :---: | :---: | :---: | :---: |
| 40 | 41 | 42 | 43 | 44 |

The answer is: | B |
| :---: |
|  |
|  |

The answer B has been marked for you on your answer sheet.

## Example iv.

Which of these numbers is an even number and is greater than 15 ?

| $A$ | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 11 | 14 | 19 | 22 | 27 |

The answer is:

| $D$ |
| :---: |
| 22 |

Mark the box with the letter $D$ on your answer sheet.


You have minutes for this section.

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Go to the next page.

## Remember to mark your answers on your answer sheet.

1 Alex has 92 DVDs. 12 belong to his brother, 5 to his father and 7 to his best friend. The rest belong to Alex.
How many DVDs does Alex own?

2 Sean takes a pie out of the freezer. The temperature of the pie is $-4^{\circ} \mathrm{C}$. After 2 hours, the temperature of the pie is $9^{\circ} \mathrm{C}$.
What is the change in temperature in ${ }^{\circ} \mathrm{C}$ ?

3 Both angles labelled $\mathbf{y}$ are the same size.
What is the size, in degrees, of one of the angles labelled $\mathbf{y}$ ?
Information: The angles in a triangle add up to $180^{\circ}$


## Maths 1

In a park there is a paved area containing some flower beds as shown below.


## Information:

The area of a rectangle is length x width

4 What is the total area, in $\mathrm{m}^{2}$, of the flower beds?

5 What is the total distance, in metres, around the outside edge of the paving?

6 Stanley sells programmes at a football match for $£ 7$ each. The organisers promise to pay him 10\% of the cost of each programme he sells. Stanley sells 120 programmes.
How many pounds should the organisers pay him?

7 If $72 \times 9=648$ and $18 \times ?=648$, what is the value of ?

8 The area of the rectangle below is $6 \mathrm{~cm} \times 5 \mathrm{~cm}=30 \mathrm{~cm}^{2}$.
A
6 cm

B
B
5 cm
C
D

If the length of each side is doubled, what is the difference in area (in $\mathrm{cm}^{2}$ ) between the new area and the original area?

| Museum ticket prices |
| :---: |
| Adults: $£ 8$ |
| Children: half the adult price |
| Buy 10 child tickets and receive 1 adult ticket free. |

9 If 17 children and 3 adults visit the museum, what is the total cost of their tickets? Maths 1

10 A cycling team has 24 members, of which 12 are girls and 12 are boys.
In a competition they win 9 medals between them.
If the girls won 3 more medals than the boys, how many medals did the boys win?

11 The team won a mixture of bronze, silver and gold medals. Of the 9 medals won, one third were gold and there was only 1 bronze medal.

How many silver medals were won?

12 Each member of the cycling team competed in the following number of races:

- Each team member competed in different races.
- 2 members competed in 3 races.
- The rest competed in only 2 races.

What is the total number of races that the members competed in?

13 A shopkeeper buys a box of 5 coffee mugs for $£ 30$. He wishes to sell them separately for double the cost he paid for each mug. How much will he sell each mug for?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| $£ 6.00$ | $£ 8.00$ | $£ 10.00$ | $£ 12.00$ | $£ 60.00$ |

14 Adrian and Neera ran a 100 m race. Adrian finished in 18.70 seconds. Neera finished in 17.35 seconds. What is the difference between Neera and Adrian's running times?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 0.35 seconds | 1.35 seconds | 1.40 seconds | 1.45 seconds | 1.65 seconds |

15 Ed buys tickets to a concert. Adult tickets cost $£ 20$ and child tickets are $25 \%$ cheaper. He buys 2 adult tickets and 1 child ticket. How much does he spend?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| $£ 40$ | $£ 44$ | $£ 45$ | $£ 50$ | $£ 55$ |

$\qquad$

16 Michael needs 5.5 kg of tomatoes.
He puts some tomatoes on the scale as shown.
How many more kg of tomatoes does he need?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 2.5 kg | 2.6 kg | 2.7 kg | 2.8 kg | 2.9 kg |




17 In 5 years I will be half the age my uncle is now. My uncle is 46 . How old am I?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 16 | 17 | 18 | 19 | 20 |


| Tour | Start Time | Duration of Tour |
| :--- | :---: | :---: |
| Ghost Tour | $11: 15$ | 85 minutes |

What time will the Ghost Tour return?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| $12: 15$ | $12: 20$ | $12: 30$ | $12: 35$ | $12: 40$ |

## Maths 1

## Information: 1 metre ( m ) = 100 centimetres (cm)



## Example

Harry collects animals for his model zoo. The scale of his model is $1: 30$. This means that a model elephant that is 12 cm high is based on a real elephant that is 360 cm high.
( $12 \times 30=360$ and $360 \div 30=12$ )

19 A model lion is 7.5 cm long. What would be the length of a real lion?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 150 cm | 175 cm | 210 cm | 215 cm | 225 cm |

20 A real giraffe is 4.8 m tall. How tall will a model giraffe be?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 15 cm | 16 cm | 17 cm | 18 cm | 20 cm |

21 Books are packed into boxes for storage. There are 5,6 or 7 books in a box.
Which option could be the possible number of books in 4 boxes?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| 18 | 19 | 23 | 29 | 30 |

## Moreton Car Park parking charges

| First 2 hours | free |
| :--- | :--- |
| Next 2 hours | 80 p per hour |
| Additional hours | 50 p per hour |

How much will it cost to park for 7 hours?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| $£ 2.50$ | $£ 3.10$ | $£ 3.50$ | $£ 4.10$ | $£ 5.60$ |

23 Steven's birthday is on Saturday 22nd April.
If his birthday is in 19 days' time, what day would it be today?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| Monday | Tuesday | Wednesday | Thursday | Friday |

24 The diagram shows a number line.
Some of the values are missing.


What is the value at the point $Y$ ?

| A | B | C | D | E |
| :---: | :---: | :---: | :---: | :---: |
| $\frac{9}{4}$ | $\frac{10}{4}$ | $\frac{11}{4}$ | $\frac{12}{4}$ | $\frac{13}{4}$ |

## Answer sheets

The following pages contain the answer sheets, which you can remove from the booklet.

## Remember

The RIGHT way to mark your answers on the answer sheet


RIGHT

The WRONG way to mark your answers on the answer sheet


WRONG


WRONG





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