

Ma

KEY STAGE
3

HIGHER TIERS
TEST B

2002

Mental arithmetic Test B Audiotape transcript

This booklet contains a transcript of the key stage 3 mental arithmetic Test B. It should be used **ONLY** in cases of tape failure or for specific special arrangements made for the administration of this version of the test for pupils with sensory and/or motor disabilities.



Guarding standards

department for

education and skills

creating opportunity, releasing potential, achieving excellence

**'Now we are ready to start the test.
For this first group of questions, you will have 5 seconds to work out each answer and write it down.'**

1	How many seconds are there in one and a half minutes?
2	Look at the equation on your answer sheet. When x equals seven, what is the value of y ?
3	What number is nought point one less than two?
4	How many pairs of parallel sides does a parallelogram have?
5	Look at the fraction. Write it in its simplest form.
6	In a quiz, I got eighteen out of twenty questions correct. What percentage of questions did I get correct?
7	Nine to the power six divided by nine to the power two is equal to nine to the power what?

'For the next group of questions, you will have 10 seconds to work out each answer and write it down.'

8	Write down a number that is both a multiple of four and a multiple of six.
9	Look at the number. How much must you add to it to make four thousand?
10	In a survey, people were asked which they liked best – milk chocolate or dark chocolate. The bar chart shows the results. Sixty people said milk. About how many said dark?
11	I start at six and count back in equal steps. Six, one, minus four, ... What is the next number in my sequence?
12	Look at the spinner. It has five equal sections. What is the probability that I spin a three?
13	What is half of one hundred and seventy-six?
14	The diagram shows three equal angles. What is the size of one of the angles?
15	Look at the equation. When m equals two, what is the value of h ?

'Now turn over your answer sheet.'

**Key stage 3 mathematics 2002
Mental arithmetic Test B**

First name _____

Last name _____

School _____

Pupil number

--	--	--	--	--

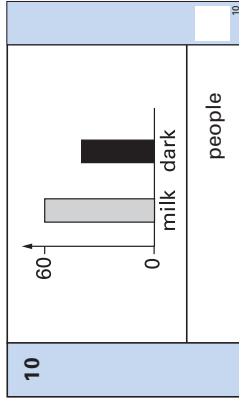
 Total marks

--

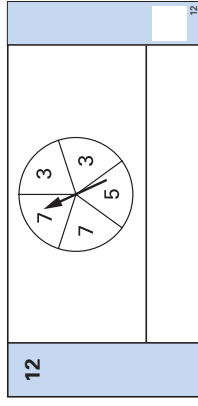
Time: 10 seconds

8	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------

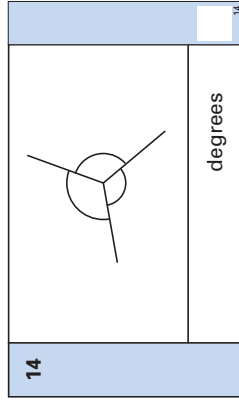
9	<input type="text"/>	3096	<input type="text"/>
---	----------------------	------	----------------------



11	6 1 -4	<input type="text"/>
----	--------	-------	----------------------



13	<input type="text"/>	176	<input type="text"/>
----	----------------------	-----	----------------------



15	<input type="text"/>	$h = 3m - 10$	<input type="text"/>
----	----------------------	---------------	----------------------

Practice question

<input type="text"/>	70	80
----------------------	----	----

Time: 5 seconds

1	seconds	<input type="text"/>
---	---------	----------------------

2	$y = 10 - x$	<input type="text"/>
---	--------------	----------------------

3	0.1	<input type="text"/>
---	-----	----------------------

4	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------

5	$\frac{5}{20}$	<input type="text"/>
---	----------------	----------------------

6	%	18	<input type="text"/>
---	---	----	----------------------


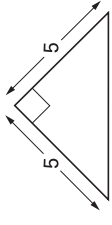
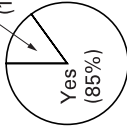
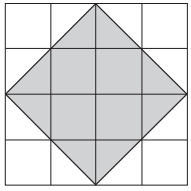
7	$9^6 \div 9^2$	<input type="text"/>
---	----------------	----------------------

16	The exterior angle of a regular pentagon is seventy-two degrees. What size is the interior angle of the pentagon?
17	There are one hundred balls in a bag. I am going to take a ball out at random. The probability that it will be red is one fifth. How many red balls are in the bag?
18	Multiply three y by five y . Write your answer in its simplest form.
19	I am thinking of a solid shape. It has a circular base and one vertex. What is the mathematical name of this solid shape?
20	What is half of one third?
21	Your answer sheet shows the n th term of a sequence. What is the eighth term of the sequence?
22	Look at the expression. When k equals seven, what is its value?

'For the next group of questions, you will have 15 seconds to work out each answer and write it down.'

23	The diagram shows a shaded square drawn on a centimetre square grid. What is the area of the shaded square?
24	The table shows the number of goals per match scored by a team. How many matches did the team play altogether?
25	When I drive on the motorway, my car uses petrol at the rate of eleven miles per litre. How many litres should I expect to use on a motorway journey of one hundred and seventy-six miles?
26	Multiply together the first four odd numbers.
27	The diagram shows a triangle. Which value underneath the triangle shows the length of the hypotenuse? Ring the correct answer.
28	The angles of a triangle are in the ratio one to two to three. What are the sizes of the three angles?
29	I have one hundred pounds in five pence coins. How many five pence coins is that?
30	Some people were asked if they voted in an election. The pie chart shows the results. Work out the angle for the sector that represents 'No'.

'Put your pens down. The test is finished.'

Time: 10 seconds continued		Time: 15 seconds continued													
16		24	<table border="1"> <thead> <tr> <th>Number of goals</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4</td> </tr> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>2</td> <td>6</td> </tr> <tr> <td>3</td> <td>4</td> </tr> <tr> <td>4</td> <td>1</td> </tr> </tbody> </table>	Number of goals	Frequency	0	4	1	5	2	6	3	4	4	1
Number of goals	Frequency														
0	4														
1	5														
2	6														
3	4														
4	1														
17	$\frac{1}{5}$	25	<table border="1"> <thead> <tr> <th>litres</th> <th>11 miles/litre</th> </tr> </thead> <tbody> <tr> <td></td> <td>176 miles</td> </tr> </tbody> </table>	litres	11 miles/litre		176 miles								
litres	11 miles/litre														
	176 miles														
18	$3y \cdot 5y$	26													
19		27													
20	$\frac{1}{3}$	28	<table border="1"> <thead> <tr> <th>.....</th> <th>.....</th> <th>.....</th> <th>.....</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> <td>.....</td> <td>.....</td> </tr> </tbody> </table>				
.....												
.....												
21	$\frac{1}{2}(n-3)^2$	29													
22	$\frac{k^3}{k}$	30													
23			degrees												
	cm ²														

First published in 2002

© Qualifications and Curriculum Authority 2002

Reproduction, storage, adaptation or translation, in any form or by any means, of this publication is prohibited without prior written permission of the publisher, unless within the terms of licences issued by the Copyright Licensing Agency. Excerpts may be reproduced for the purpose of research, private study, criticism or review, or by educational institutions solely for educational purposes, without permission, provided full acknowledgement is given.

Produced in Great Britain by the Qualifications and Curriculum Authority under the authority and superintendence of the Controller of Her Majesty's Stationery Office and Queen's Printer of Acts of Parliament.

The Qualifications and Curriculum Authority is an exempt charity under Schedule 2 of the Charities Act 1993.

Qualifications and Curriculum Authority
83 Piccadilly
London
W1J 8QA
www.qca.org.uk/

Further teacher packs may be purchased (for any purpose other than statutory assessment) by contacting:

QCA Publications, PO Box 99, Sudbury, Suffolk CO10 2SN
(tel: 01787 884444; fax: 01787 312950)