

Ma

KEY STAGE  
3

HIGHER TIERS  
TEST A

2002

# Mental arithmetic Test A Audiotape transcript

This booklet contains a transcript of the key stage 3 mental arithmetic Test A. 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.

**'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 | I start at one point seven and count up in equal steps.<br>One point seven, one point eight, one point nine, ...<br>What is the next number? |
| 2 | How many faces has a cube?   |
| 3 | When $m$ equals three, what is the value of five $m$ ?   |
| 4 | Look at the numbers on your answer sheet. Add them.  |
| 5 | What is the sum of the angles in a triangle?   |
| 6 | Write the ratio twelve to six in its simplest form.  |
| 7 | Multiply nought point two by nought point three.   |

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

|    |  |
|----|--|
| 8  | Double seventy-eight.  |
| 9  | The pictogram shows the number of boys and girls in a year group that had part-time jobs.<br>How many more boys than girls had part-time jobs?   |
| 10 | What number is the arrow pointing to on the number line?   |
| 11 | There are red, blue and yellow balls in a bag.<br>I am going to take out one ball at random.<br>The table shows the probabilities of getting a red ball and of getting a blue ball.<br>What is the probability of getting a yellow ball? |
| 12 | Look at the expression. Simplify it.   |
| 13 | AB is a straight line.<br>Work out the size of angle $x$ .   |
| 14 | A teacher asked pupils in a class 'Do you eat meat?'<br>The percentage bar chart shows the results.<br>Estimate the percentage of pupils that said no.   |

**'Now turn over your answer sheet.'**

Key stage 3 mathematics 2002  
Mental arithmetic Test A

First name \_\_\_\_\_

Last name \_\_\_\_\_

School \_\_\_\_\_

Pupil number

Total marks

Time: 10 seconds

|   |  |    |   |
|---|--|----|---|
| 8 |  | 78 | 6 |
|---|--|----|---|

9

Key:  $\diamond = 8$  pupils

|       |   |
|-------|---|
| Boys  | $\diamond$ $\diamond$ $\diamond$ $\diamond$ |
| Girls | $\diamond$ $\diamond$ $\blacktriangle$      |

10

10

11

|     |      |        |
|-----|------|--------|
| red | blue | yellow |
| 0.2 | 0.5  | ?      |

12

|                     |    |
|---------------------|----|
| $7a + 2b + 3a + 5b$ | 12 |
|---------------------|----|

13

degrees

14

%

Practice question

|  |    |    |
|--|----|----|
|  | 70 | 80 |
|--|----|----|

Time: 5 seconds

1

|     |     |     |       |
|-----|-----|-----|-------|
| 1.7 | 1.8 | 1.9 | ..... |
|-----|-----|-----|-------|

2

|  |  |
|--|--|
|  |  |
|--|--|

3

|      |   |
|------|---|
| $5m$ | 3 |
|------|---|

4

|    |   |
|----|---|
| -7 | 9 |
|----|---|

5

|         |   |
|---------|---|
| degrees | 6 |
|---------|---|

6

|        |   |
|--------|---|
| 12 : 6 | 6 |
|--------|---|

7

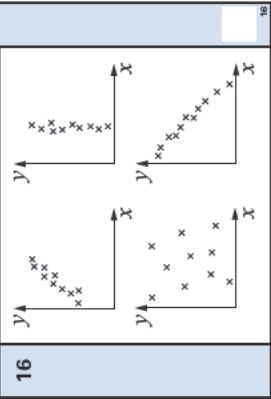
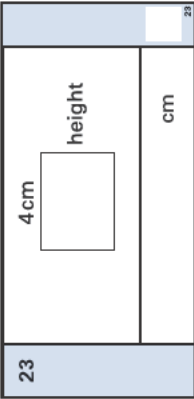
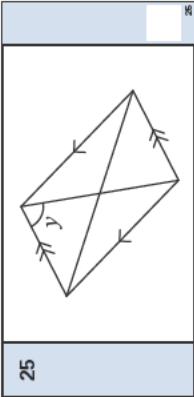
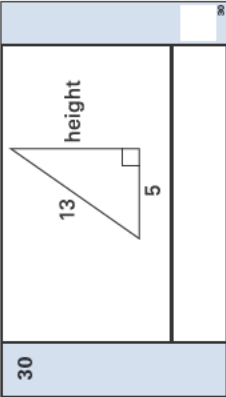
|     |     |   |
|-----|-----|---|
| 0.2 | 0.3 | 7 |
|-----|-----|---|

|    |  |
|----|--|
| 15 | What is the total cost of three books at nine pounds ninety-nine pence each?   |
| 16 | Which scatter diagram shows strong negative correlation?<br>Ring the correct answer.   |
| 17 | Forty per cent of a number is twelve. What is the number?  |
| 18 | Look at the expression. Multiply out the brackets.   |
| 19 | Look at the numbers. One of them is the decimal equivalent of one eighth.<br>Ring the correct number.  |
| 20 | Look at the expression.<br>What is the value of this expression when $k$ equals three?   |
| 21 | A drink uses apple juice and carrot juice in the ratio two to three.<br>I want to make a litre of this drink.<br>How many millilitres of apple juice should I use? |
| 22 | The volume of a cube is sixty-four centimetres cubed.<br>What is the length of an edge of the cube?  |

**'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 rectangle. Its perimeter is twelve centimetres.<br>What is the height of the rectangle?                   |
| 24 | How many hours are there in one week?   |
| 25 | Look at the diagram.<br>Mark on the diagram another angle that is the same size as angle $y$<br>Label it $y$                  |
| 26 | A computer game cost forty-two pounds.<br>Its price increased by ten per cent.<br>What is the new price of the computer game? |
| 27 | The table shows the number of goals scored in fourteen matches.<br>How many goals were scored altogether?                     |
| 28 | Work out the answer to the calculation on your answer sheet.  |
| 29 | $x$ squared equals nine. What are the possible values of ten minus $x$ ?  |
| 30 | Look at the right-angled triangle.<br>Work out the height of the triangle.  |

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

| Time: 10 seconds continued |   | Time: 15 seconds continued |  |                 |           |   |   |   |   |   |   |   |   |
|----------------------------|---|----------------------------|--|-----------------|-----------|---|---|---|---|---|---|---|---|
| 15                         | £   | £9.99                      | 16   |                 |           |   |   |   |   |   |   |   |   |
| 16                         |  | 17                         | 40% 12   |                 |           |   |   |   |   |   |   |   |   |
| 17                         |   | 18                         | $a(a + 2)$   |                 |           |   |   |   |   |   |   |   |   |
| 18                         |   | 19                         | 0.125 0.18 0.215<br>0.8 1.8  |                 |           |   |   |   |   |   |   |   |   |
| 19                         |   | 20                         | $10k^2$  |                 |           |   |   |   |   |   |   |   |   |
| 20                         |   | 21                         | ml 2 : 3   |                 |           |   |   |   |   |   |   |   |   |
| 21                         |   | 22                         | cm   |                 |           |   |   |   |   |   |   |   |   |
| 22                         |   | 23                         |   |                 |           |   |   |   |   |   |   |   |   |
| 23                         |   | 24                         | hours  |                 |           |   |   |   |   |   |   |   |   |
| 24                         |   | 25                         |   |                 |           |   |   |   |   |   |   |   |   |
| 25                         |   | 26                         | £ £42  |                 |           |   |   |   |   |   |   |   |   |
| 26                         |   | 27                         | <table border="1" data-bbox="660 143 935 539"> <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>3</td> </tr> <tr> <td>2</td> <td>6</td> </tr> <tr> <td>3</td> <td>1</td> </tr> </tbody> </table> | Number of goals | Frequency | 0 | 4 | 1 | 3 | 2 | 6 | 3 | 1 |
| Number of goals            | Frequency   |                            |  |                 |           |   |   |   |   |   |   |   |   |
| 0                          | 4   |                            |  |                 |           |   |   |   |   |   |   |   |   |
| 1                          | 3   |                            |  |                 |           |   |   |   |   |   |   |   |   |
| 2                          | 6   |                            |  |                 |           |   |   |   |   |   |   |   |   |
| 3                          | 1   |                            |  |                 |           |   |   |   |   |   |   |   |   |
| 27                         |   | 28                         | $2^4 \times 3^2$   |                 |           |   |   |   |   |   |   |   |   |
| 28                         |   | 29                         | and $x^2 = 9$<br>$10 - x$  |                 |           |   |   |   |   |   |   |   |   |
| 29                         |   | 30                         |   |                 |           |   |   |   |   |   |   |   |   |
| 30                         |   | 31                         |  |                 |           |   |   |   |   |   |   |   |   |

First published in 2002

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