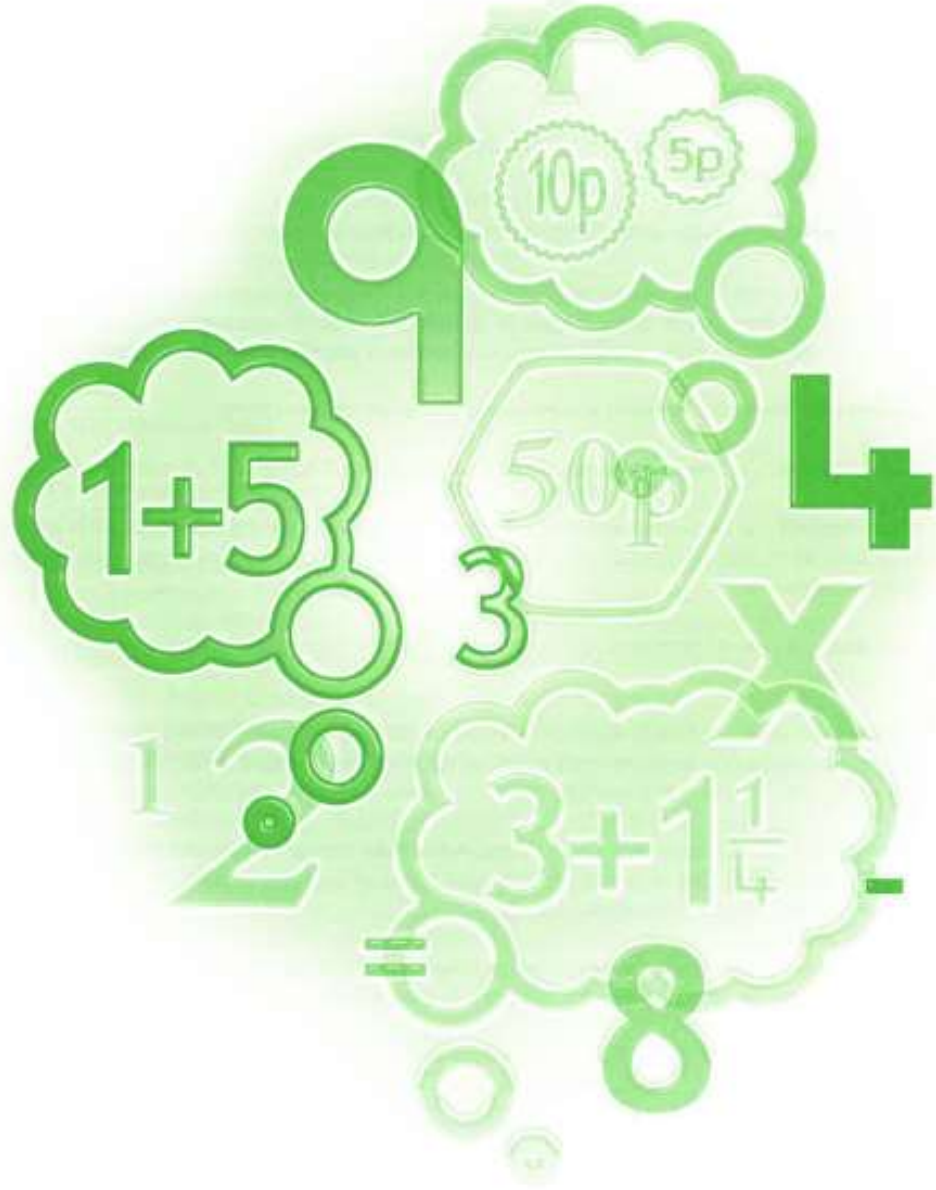


Mental Arithmetic 3

Name _____



The Language of Maths

Boost your number vocabulary by learning the meanings of the maths terms listed below – all of them are used in this book.

area – the amount of surface space inside the perimeter of a shape. We often measure area in square centimetres (cm²) or square metres (m²).

average – to find the average or mean of 3, 7 and 14, you have to find the total of the numbers ($3 + 7 + 14 = 24$). You then divide the total (24) by the number of items in your list (3). $24 \div 3 = 8$. The average is therefore 8. Use the same method to find averages of other lists of numbers.

capacity – the amount that something will hold. We may talk about the capacity of a glass or the capacity of a football stadium.

circle – a round two-dimensional (2-D) shape. A complete turn in a circle is 360 degrees (360°).

distance – the word we use to tell us how far it is from one place to another. One way of finding out a distance is to measure it using a ruler or measuring tape. To calculate a longer distance (for example, one that you would travel on a bike or in a car) you can use this formula: distance = time x speed.

perimeter – the distance all the way round the edge of something.

perpendicular – a line is perpendicular to another line if it meets it at right angles.

quadrilateral – a two-dimensional (2-D) shape with four straight sides and with internal (inside) angles that add up to 360 degrees (360°). Some quadrilaterals have special names (for example, 'square' or 'parallelogram').

rhombus – a two-dimensional (2-D) shape. It has four sides that are equal in length. Its opposite sides are parallel.


squared – a number that is squared is to be multiplied by itself (for example, '7 squared' is 7×7). We sometimes write squared with a very small number 2 placed after the number and raised up high. For example, '7 squared' is written as 7^2 .

triangle – a two-dimensional (2-D) shape with three straight sides and three angles that always add up to 180 degrees (180°). There are many different types of triangle (equilateral, isosceles, scalene, right-angled): try to find out about each type.

24-hour clock – the clock that we use for timetables. The 24-hour clock uses four digits. The first two are for hours and the second two are for minutes. For example, 1.30 p.m. is shown as 13:30 on the 24-hour clock.

Section 1 Test 1

A ANSWER

1  Write in words the number shown on the abacus picture.

2 $(3 \times 9) + 6$ _____

3 $5 + \quad = 13$ _____

4 $9 \text{ cm } 4 \text{ mm} = \quad \text{mm}$ _____

5 $237\text{p} = \text{£}$ _____

6 80×10 _____

7 $(18 + 3) - (16 + 4)$ _____

8 $3 \text{ TENS} = 23\text{p}$ _____

9 $28\text{p} + 80\text{p} = \text{£}$ _____

10 $\text{£}6 = \quad \text{FIFTIES}$ _____

11 $1 \text{ h } 50 \text{ min} = \quad \text{min}$ _____

12 $300 - 175$ _____

B ANSWER

1 Add four hundred to one thousand and ten. Answer in figures. _____

2 Increase 29 by 33. _____

3 Find the change from a FIFTY after spending 28p. _____

4 Multiply $\text{£}0.40$ by 8. _____

5 Write 87 to the nearest 10. _____

6 Divide 200 by 10. _____

7 Write as £ s the sum of 26p, 28p and 50p. _____

8 $27\text{p} = \quad \text{FIVES plus 6 TWOS}$ _____

9 How many tenths in $1\frac{1}{2}$? _____

10 Subtract 36p from $\text{£}1$. _____

11 How many TWOS have the same value as 4 TENS? _____

12 Find the cost of one if 10 cost $\text{£}1$. _____

C ANSWER

1 1 2 4 6 8 9

Which of these numbers will not divide into 36 without a remainder? _____

2 $24 + 28 = x + 12$
Find the value of x . _____

3 How much greater is 4×7 than $4 + 7$? _____



This clock is 14 min slow. Write the correct time using a.m. or p.m. _____

5 By how much is the value of 15 TWOS less than the value of 9 FIVES? _____

6 If 100 grams of grapes cost 30p how much will 350 grams cost? _____

7 $(54 + 9) + (6 \times 6)$ _____

8 0 7 9 1

Arrange these figures to make the largest possible number. _____



Find the diameter of each of the circles. _____

10 If $\frac{1}{2}$ kg costs 86p, how much will $\frac{3}{4}$ kg cost? _____

11 Posts on a motorway are 100 m apart. Find in km the distance between 11 of the posts. _____



Name the two rectangles each of which has three quarters shaded. _____

Section 1 Test 2

A

ANSWER

1  Write in words the number shown on the abacus picture.

2 $180 + 30$ _____

3 $600 + 10$ _____

4 $98 \text{ mm} =$ _____ cm _____ mm

5 $(8 \times 8) + 7$ _____

6 $204 \text{ cm} =$ _____ m _____ cm

7 $240 - 70$ _____

8 $\text{£}4 =$ _____ **TWENTIES**

9 $\frac{1}{5}$ of 25 + $\frac{1}{7}$ of 7 _____

10 $22 + 8 + 34$ _____

11 $75 \text{ min} =$ _____ h _____ min

12 $\text{£}1.00 -$ _____ $\text{p} = 53\text{p}$

B

ANSWER

1 Write in figures three thousand one hundred and fourteen. _____

2 By how many g is 820 g less than 1 kg? _____ g

3 Divide 1 metre by 5. Answer in cm. _____ cm

4 Find the change from a FIFTY after spending 16p. _____ p

5 Find the cost of one if 10 cost £2. _____ p

6 How many eighths in 5 whole ones? _____ $\frac{8}{8}$

7 $84\text{p} = 7$ TENS + _____ TWOS

8 Find the sum of £0.24 and £0.69. _____ £

9 What must be added to 75p to make £1.50? _____ p

10 How many min from 7.47 a.m. to 8.15 a.m.? _____ min

11 One costs £0.49. Find the cost of 3. _____ £

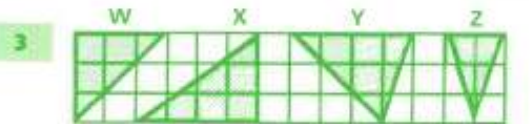
12 Find the difference between 7×9 and 9×6 . _____

C

ANSWER

1 Take two thousand and twenty from 2222. _____

2 What number other than 1, 3 and 27 will divide into 27 without leaving a remainder? _____



Which of the triangles is a right-angled triangle and has two equal sides? _____

4 One quarter of a class of 32 children wear spectacles. How many children do not wear them? _____

5 Which 3 coins are given in change from £2 after spending £1.35? _____ p _____ p _____ p

6  Write the total mass of the 4 tins in kg and g. _____ kg _____ g

7 If Jack walks at 6 kilometres per hour, how far will he walk from 8.30 a.m. to 11.00 a.m.? _____ km

8 Find the difference between (7×10) and (7×100) . _____

9 Mother bought a box containing 500 straws. If she uses 20 straws each week, for how many weeks will the straws last? _____

10 Write the sum of £0.36, £1.24 and £1.40. _____ £

11

class 1	class 2	class 3	class 4
25	26	25	24


 How many children altogether in the 4 classes? _____

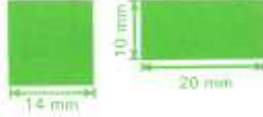
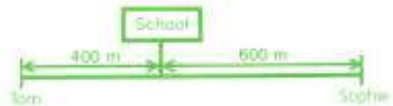
12 If meat is sold at £2 per $\frac{1}{2}$ kg, how many grams can be bought for
(a) £1 _____ g
(b) 50p? _____ g

Section 1 Test 3

A	ANSWER
1	$910 + 90$ _____
2	$18p + 7p = 1 \text{ TWENTY} + \text{ } p$ _____ p
3	15×10 _____
4	A FIFTY $- 18p$ _____ p
5	$(10 \times 0) + (4 \times 8)$ _____
6	$43 + 47$ _____
7	$400 - 120$ _____
8	1 kg $- 250 \text{ g}$ _____ g
9	$£3 = \text{ } \text{ FIVES}$ _____ FIVES
10	1 h 45 min $= \text{ } \text{ min}$ _____ min
11	$£2.67 = \text{ } \text{ TENS} + 7p$ _____ TENS
12	$(\frac{1}{2} \text{ of } 42) + (\frac{1}{5} \text{ of } 30)$ _____

B	ANSWER
1	Find the total of 29 and 81. _____
2	What is the change from a FIFTY after spending 19p and 18p? _____ p
3	Decrease 20 cm by 20 mm. _____ cm
4	Multiply 6 by 7 and add 8. _____
5	Write 124 mm to the nearest cm. _____ cm
6	What sum of money is six times greater than $£0.19$? _____ £
7	$£0.68 = 1 \text{ FIFTY} + \text{ } \text{ TWOS}$ _____ TWOS
8	$\frac{1}{2} \text{ kg}$ costs $£1.50$. What is the cost of 100 g? _____ p
9	How many FIVES are equal to $£2.75$? _____ FIVES
10	How many times greater is $£4.20$ than 42p? _____
11	How many days altogether in the 6th and 7th months of the year? _____ days
12	How much change from 4 TWENTIES after buying 8 buttons at 9p each? _____ p

C	ANSWER				
1	Write this date in figures only. The twenty-first day of August nineteen eighty-three _____				
2	 How many more grams must be placed on pan Z to make the scales balance? _____ g				
3	$(4 \times 0) + (1 \times 9) + (10 \times 1)$ _____				
4	<table border="1"> <tr><td>2 TWENTIES</td></tr> <tr><td>6 TENS</td></tr> <tr><td>9 FIVES</td></tr> <tr><td>4 TWOS</td></tr> </table> Katie made this list of the coins she had saved. How much had she altogether? _____ £	2 TWENTIES	6 TENS	9 FIVES	4 TWOS
2 TWENTIES					
6 TENS					
9 FIVES					
4 TWOS					
5	1 TWENTY and a FIVE were given as change from $£2$. How much had been spent? _____ £				
6	Write the missing signs $+$, $-$, \times or \div in place of \bullet and \blacktriangle . $9 \bullet 4 = 25 \blacktriangle 5$ _____				

7	 How much greater is the distance round the rectangle than the distance round the square? _____ mm
8	If 1 kg costs $£1$, find the cost of (a) 100 g _____ p (b) 300 g _____ p
9	Add three-quarters of 24 to one-seventh of 56. _____
10	Samina was born in January but Hassan was born 5 months earlier. In what month was Hassan born? _____
11	5 biscuits of equal value cost 40p. What do 3 of the biscuits cost? _____ p
12	 Tom and Sophie travel from home to school and back once a day. How many km more does Sophie travel in 5 days than Tom? _____ km

Section 1 Test 4

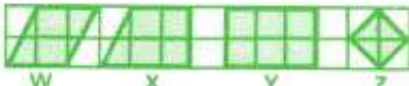
A ANSWER


- 1 $485 = \quad$ tens + 5 units TENS
- 2 $2\frac{1}{2}$ kg = \quad g g
- 3 $2000 + 900 + 70 + 6$ _____
- 4 25 cm = \quad mm mm
- 5 $9000 \div 10$ _____
- 6 $\pounds 1.00 - 82\text{p}$ p
- 7 $37 \div 4 = \quad$ rem. rem.
- 8 \quad p - $8\text{p} = 5\text{p}$ p
- 9 $3103 + 97$ _____
- 10 $\pounds 2 = \quad$ TWOS TWOS
- 11 1 litre = 350 ml ml
- 12 $(9 \times 9) + 8$ _____

B ANSWER


- 1 $\frac{1}{3}$ of a number is 8. What is the number? _____
- 2 Subtract $\pounds 1.27$ from $\pounds 2$. p
- 3 Multiply $\pounds 2.08$ by 6. £
- 4 Add 6 to the product of 7 and 7. _____
- 5 Find the remainder when 71 is divided by 8. _____
- 6 28p plus 46p plus \quad p = $\pounds 1$ p
- 7 Add the odd numbers between 24 and 28. _____
- 8 Increase $12\frac{1}{2}$ cm by 25 mm. cm
- 9 How many metres in 25 cm $\times 8$? m
- 10 8 badges cost 64p. What did one cost? p
- 11 How many years from 1875 to 1985? _____
- 12 if one costs $\pounds 0.05$, find the cost of 100. £

C ANSWER

- 1 Write the time 12 hours after 8 p.m. Use a.m. or p.m. _____
- 2 A man walked steadily from 11 a.m. to 2.30 p.m. at 5 kilometres per hour. How far did he walk? km
- 3 
- (a) Which of the shapes has two pairs of parallel lines, four sides of equal length and four right angles? (a) _____
- (b) Name this shape. (b) _____
- 4 Find the change from $\pounds 3$ after spending $\pounds 1.38$ and $\pounds 0.22$. £
- 5 If 6 lemons cost 90p what is the cost of (a) 1 lemon (a) p
(b) 4 lemons? (b) p
- 6 By how many is $\frac{1}{4}$ of 20 greater than $\frac{1}{5}$ of 20? _____

- 7  Write the total capacity of the 3 cans in \pounds and ml. £ ml

- 8 In a class of 14 boys and 16 girls 3 children were absent. What fraction of the children were (a) absent (a) _____
(b) present? (b) _____

- 9  A boy faces North. He turns left until he faces East. Through how many right angles does he turn? _____

- 10 How many packets of sweets each having a mass of 250 g can be made from a $4\frac{1}{2}$ -kg pack? _____
- 11 The distance round a triangle having equal sides is 54 cm. Write the length in mm of each side. mm
- 12 A packet of biscuits has a mass of 188 g. Write the mass of 10 packets (a) to the nearest 100 g (a) g
(b) to the nearest kg. (b) kg