

# Mental Arithmetic 2



Name \_\_\_\_\_

# Schofield & Sims Mental Arithmetic

## 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.

**acute angle** – an angle of less than 90 degrees ( $90^\circ$ ). Degrees are shown by the symbol  $^\circ$ .

**algebra** – a 'grown-up' way of talking about number sentences that include letters in place of some numbers. If you were given a sum such as  $6 + ? = 10$ , you would know that the missing number is 4 because  $6 + 4 = 10$ . Algebra replaces the missing number with a letter (such as Y), so the sentence would say  $6 + Y = 10$ . The answer would still be 4 because  $Y = 4$ .

**circumference** – the distance all the way round a circle.

**diameter** – a straight line drawn through the centre of a circle. It divides the circle in half.

**direction** – the directions N (north), S (south), E (east) and W (west) are known as the four points of the compass.

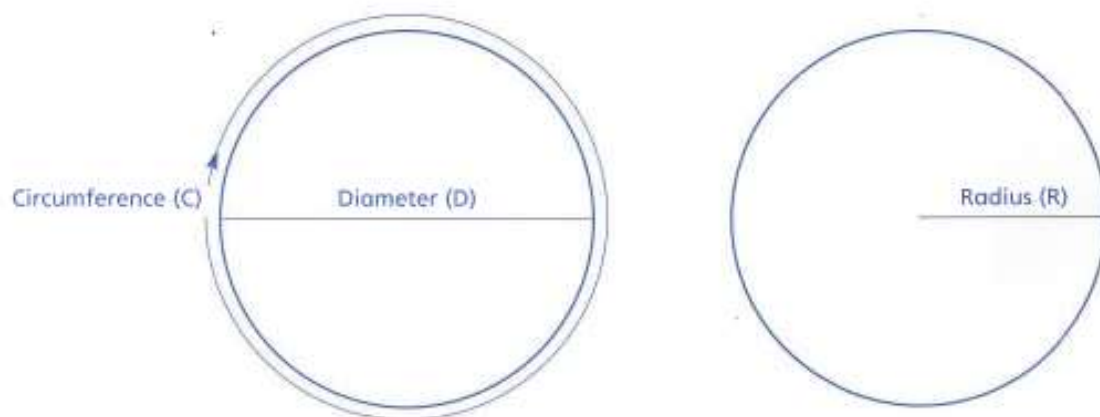


**equation** – a 'grown-up' word for a number sentence. In an equation, whatever comes before the = sign is worth the same as whatever comes after it. In other words, the two sides of the equation should equal one another. ( $5 = 3 + 2$  or  $2 \times 6 = 12$ )

**obtuse angle** – an angle of more than 90 degrees ( $90^\circ$ ). Degrees are shown by the symbol  $^\circ$ .

**parallel lines** – are the same distance apart from one another all the way along their length. They will never meet, no matter how long you make them.

**radius** – the radius of a circle is the length of a straight line drawn from the centre of the circle to its curved edge, as shown in the drawing below.



# Section 1 Test 1

A		ANSWER
1	$6 + 4 + 8$	<input style="width: 30px; height: 20px;" type="text"/>
2	$15p - 8p$	<input style="width: 30px; height: 20px;" type="text" value="p"/>
3	$\frac{1}{2}$ hour = <input style="width: 20px;" type="text"/> min	<input style="width: 30px; height: 20px;" type="text" value="min"/>
4	$5p + 5p + 2p + 2p$	<input style="width: 30px; height: 20px;" type="text" value="p"/>
5	$\frac{1}{2}$ of 14	<input style="width: 30px; height: 20px;" type="text"/>
6	5 TWOS = <input style="width: 20px;" type="text"/> FIVES	<input style="width: 30px; height: 20px;" type="text" value="FIVES"/>
7	$5 + 9 = 10 +$ <input style="width: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>
8	$3 +$ <input style="width: 20px;" type="text"/> = 12	<input style="width: 30px; height: 20px;" type="text"/>
9	$7\text{ cm} + 8\text{ cm} = 10\text{ cm} +$ <input style="width: 20px;" type="text"/> cm	<input style="width: 30px; height: 20px;" type="text" value="cm"/>
10	$6 \times 2 = 3 \times$ <input style="width: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>

B		ANSWER				
1	Add 5, 4 and 9.	<input style="width: 30px; height: 20px;" type="text"/>				
2	Subtract 7 from 16.	<input style="width: 30px; height: 20px;" type="text"/>				
3	Find the sum of 10p, 5p and 2 TWOS.	<input style="width: 30px; height: 20px;" type="text" value="p"/>				
4	How many FIVES are worth 20p?	<input style="width: 30px; height: 20px;" type="text" value="FIVES"/>				
5	Increase 17 by 8.	<input style="width: 30px; height: 20px;" type="text"/>				
6	How much more than 9p are 3 TWOS and a FIVE?	<input style="width: 30px; height: 20px;" type="text" value="p"/>				
7	1 hour = 30 min + <input style="width: 20px;" type="text"/> min	<input style="width: 30px; height: 20px;" type="text" value="min"/>				
8	How many halves in 9 whole ones?	<input style="width: 30px; height: 20px;" type="text"/>				
9	Three times the value of a coin equals 15p. What is the value of the coin?	<input style="width: 30px; height: 20px;" type="text" value="p"/>				
10	How many metres are there in (a) 1 km (b) $\frac{1}{2}$ km?	<table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding-right: 5px;">(a)</td> <td style="border: 1px solid black; padding: 2px 10px;">m</td> </tr> <tr> <td>(b)</td> <td style="border: 1px solid black; padding: 2px 10px;">m</td> </tr> </table>	(a)	m	(b)	m
(a)	m					
(b)	m					

C		ANSWER
1	What is the sixth letter of the alphabet?	<input style="width: 30px; height: 20px;" type="text"/>
2	How many days are there in three weeks?	<input style="width: 30px; height: 20px;" type="text"/>
3	A strip 18 cm long is cut in half. How long is one of the pieces?	<input style="width: 30px; height: 20px;" type="text" value="cm"/>
4	Six sweets are taken from a box of 20. How many are left?	<input style="width: 30px; height: 20px;" type="text"/>
5	If one coin is taken from the box below, 11p is left. Write the value of the coin.	<input style="width: 30px; height: 20px;" type="text" value="p"/>



6	Which two coins must be added to the five coins in the box above to make a total of 20p?	<input style="width: 30px; height: 20px;" type="text" value="p"/> <input style="width: 30px; height: 20px;" type="text" value="p"/>
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7	Find the difference in length between the longest and the shortest of the lines below.	<input style="width: 30px; height: 20px;" type="text" value="cm"/>
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8	Amy had 18p. She spent 9p and 5p. How much had she left?	<input style="width: 30px; height: 20px;" type="text" value="p"/>
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9	<p>The dial shows the amount of petrol left in a tank.</p> <p>What fraction of the full tank has been used?</p>	<input style="width: 30px; height: 20px;" type="text"/>
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10	Josh has 12p. How much more does he need to buy 4 boxes at 5p each?	<input style="width: 30px; height: 20px;" type="text" value="p"/>
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# Section 1 Test 2

- | A   | ANSWER                           |
|---|----------------------------------|
| 1 $\frac{1}{2}$ of 20   | <input type="text"/>             |
| 2 $10p + 6p + 3p$   | <input type="text" value="p"/>   |
| 3 8 TWOS = 1 TEN + <input type="text"/> p                           | <input type="text" value="p"/>   |
| 4 $14 + 2$  | <input type="text"/>             |
| 5 $\frac{1}{4}$ hour = <input type="text"/> min                     | <input type="text" value="min"/> |
| 6 $9 + 7 = 6 +$ <input type="text"/>                                | <input type="text"/>             |
| 7 $9 \text{ cm} \times 2 = 10 \text{ cm} +$ <input type="text"/> cm | <input type="text" value="cm"/>  |
| 8 $4p + 9p - 7p$  | <input type="text" value="p"/>   |
| 9 $10 + 2 = 10 -$ <input type="text"/>                              | <input type="text"/>             |
| 10 $15p -$ <input type="text"/> p = 6p                              | <input type="text" value="p"/>   |

- | B   | ANSWER                           |
|---|----------------------------------|
| 1 Multiply 4 by 8.  | <input type="text"/>             |
| 2 Divide 18 by 3.   | <input type="text"/>             |
| 3 Write the eighth month of the year.                     | <input type="text"/>             |
| 4 Find the sum of a TEN and 3 FIVES.                      | <input type="text" value="p"/>   |
| 5 How many minutes from 11.05 a.m. to 11.45 a.m.?         | <input type="text" value="min"/> |
| 6 One quarter of 20                                       | <input type="text"/>             |
| 7 Subtract 16p from 25p.                                  | <input type="text" value="p"/>   |
| 8 How many half metres together measure $4\frac{1}{2}$ m? | <input type="text"/>             |
| 9 $7 \times 4 = 30 -$ <input type="text"/>                | <input type="text"/>             |
| 10 What is the total of 6p, 3p and 8p?                    | <input type="text" value="p"/>   |

- | C   | ANSWER   |
|---|--|
| 1 James is 9. How old will he be in 8 years time?   | <input type="text"/>   |
| 2 What number must be added to 8 to make 20?  | <input type="text"/>   |
| 3 How many TENS have the same value as these coins?<br>                     | <input type="text" value="TENS"/>  |
| 4 Tom had 28p. He gave a quarter of his money to Amy. How much had he left?   | <input type="text" value="p"/>   |
| 5 <br>Which of the shapes is<br>(a) a square<br>(b) a rectangle?            | <input type="text" value="(a)"/> <input type="text" value="(b)"/>  |
| 6 What is the sum of the even numbers between 3 and 9?  | <input type="text"/>   |
| 7 What is the total length of eight strips like this?<br>                 | <input type="text" value="cm"/>  |
| 8 How many 5p sweets can be bought for 1 TWENTY, 1 TEN and 1 FIVE?  | <input type="text"/>   |
| 9 Which four coins together equal 18p?  | <input type="text" value="p"/> <input type="text" value="p"/><br><input type="text" value="p"/> <input type="text" value="p"/> |
| 10 <br>Write in figures the time $2\frac{1}{2}$ h later. Use a.m. or p.m. | <input type="text"/>   |

# Section 1 Test 3


## A ANSWER

- 1 4 TWOS = 1 FIVE +  p  p
- 2  $\frac{1}{2}$  hour + 10 min  min
- 3  $8 + 7 - 10$
- 4 (a) 1 litre =  ml  ml  
 (b)  $\frac{1}{2}$  litre =  ml  ml
- 5  $10p + 2p + 2p - 7p$   p
- 6  + 7 = 15
- 7  $5p + 7p = 1 \text{ TEN} +$   p  p
- 8  $2 \text{ kg} \times 7 = 10 \text{ kg} +$   kg  kg
- 9  $16 -$   = 9
- 10  $8 + 2 = 16 \div$


## B ANSWER

- 1 Multiply 4 by 7.
- 2 How many minutes from 8.55 a.m. to 9.05 a.m.?  min
- 3 Decrease 20p by 11p.  p
- 4 Four groups of 4. How many altogether?
- 5 How many metres are there in  
 (a) 200 cm  m  m  
 (b) 500 cm?  m  m
- 6 What is one fifth of thirty?
- 7 Find the sum of  $4\frac{1}{2}$ ,  $7\frac{1}{2}$  and 6.
- 8 Subtract 9 from 26.
- 9  $1 - \frac{1}{10}$
- 10 Which 3 coins together make 9p?  p  p  p

## C ANSWER

- 1 First of January 1983  
 Write this date using figures only.
- 2 Which number is 10 times greater than 6?
- 3 Find the change from a TEN and 2 FIVES after spending 16p.  p
- 4 Which number is midway between 10 and 20?
- 5  What fraction of the circle is not shaded?
- 6 34 children are asked to stand in groups of 5. How many children are left over?
- 7 Find the difference between a quarter of 16p and a half of 16p.  p
- 8 



SCHOOL TIMES	
9 a.m. to noon	How many hours is the school day?
1.30 p.m. to 4 p.m.	

 h
- 9   
 If each cm on the line represents 4 metres, what length does the whole line represent?  m
- 10 3 4 5 6 7  
 Which two of these numbers will divide into 35 without a remainder?

# Section 1 Test 4

A	ANSWER
1 $\frac{1}{2}$ hour – 10 min	<input type="text" value="min"/>
2 $10p + 2p + 1p - 6p$	<input type="text" value="p"/>
3 $\frac{1}{3}$ of 18 kg	<input type="text" value="kg"/>
4 $3 \times 9 = 9 + 9 + \square$	<input type="text"/>
5 $6 + 8 = 10 + \square$	<input type="text"/>
6 $18 - 9 = 12 - \square$	<input type="text"/>
7 $10 \times 2 = 5 \times \square$	<input type="text"/>
8 3 TENS = <input type="text"/> FIVES	<input type="text" value="FIVES"/>
9 3 FIVES – <input type="text"/> p = 9p	<input type="text" value="p"/>
10 3 TWOS + 1 FIVE + <input type="text"/> p = 15p	<input type="text" value="p"/>

B	ANSWER
1 How much less is 7 TWOS than 1 TWENTY?	<input type="text" value="p"/>
2 Find the product of 6 and 6.	<input type="text"/>
3 One tenth of a FIFTY,	<input type="text" value="p"/>
4 From the total of 4, 5 and 6 subtract 7.	<input type="text"/>
5 Find the value of 4 times $4\frac{1}{2}$ .	<input type="text"/>
6 How many cm are there in (a) 2 m (b) $3\frac{1}{2}$ m?	(a) <input type="text" value="cm"/> (b) <input type="text" value="cm"/>
7 20 plus 3 minus 8	<input type="text"/>
8 How many grams are there in (a) 1 kg (b) $\frac{1}{2}$ kg?	(a) <input type="text" value="g"/> (b) <input type="text" value="g"/>
9 Find the difference between (8 + 9) and 27.	<input type="text"/>
10 Twenty quarters. How many whole ones is that?	<input type="text"/>

C	ANSWER
1  How many children can be given 4 sweets each from this bag?	<input type="text"/>
2 1 TWENTY and 1 FIVE. How much more to make 31p?	<input type="text" value="p"/>
3 How many minutes from ten minutes to ten to quarter past ten?	<input type="text" value="min"/>
4 Which coin is worth ten times more than a FIVE?	<input type="text"/>
5 Amy saves 5p each week. How many weeks will it take her to save 45p?	<input type="text"/>
6  What is the total length of the four sides of this rectangle?	<input type="text" value="cm"/>
7 Which 2 coins are given in change after spending 25p from 50p?	<input type="text" value="p"/> <input type="text" value="p"/>
8 One box has a mass of $1\frac{1}{2}$ kg. What is the mass of 8 of the boxes?	<input type="text" value="kg"/>
9 How many FIVES have the same value as the sum of 2 TENS and 10 TWOS?	<input type="text" value="FIVES"/>
10 Sweets cost 9p each. Tom has 40p. How much more does he need to buy 5 sweets?	<input type="text" value="p"/>