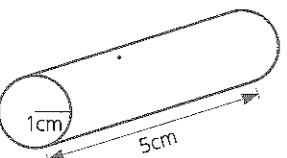
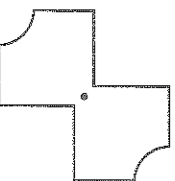
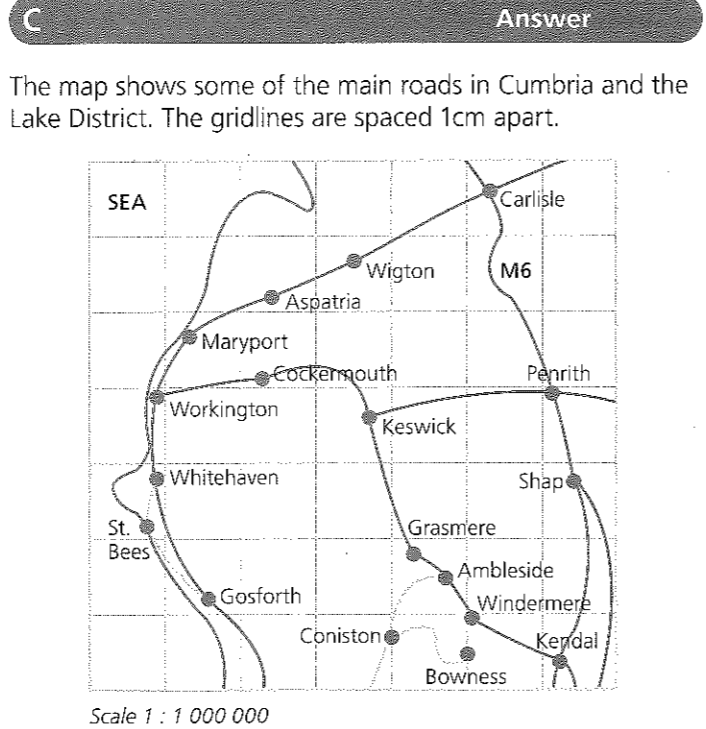


# SECTION 3 | Test 6

Schofield & Sims

A	Answer
1 Multiply the sum of 36 and 25 by their difference.	671
2 $(45 \div (2 + 3)) \times (3 + 3) =$	54
3 $32 = 2^x$ . Find $x$ .	5
4 Divide 200 in the ratio 3:7.	60 : 140
5 Divide 33 in the ratio 8:3.	24 : 9
6 $0.7 - 7 =$	-6.3
7 $\frac{6.5}{0.6 + 0.7} =$	5
8 Round 0.0909 to	
a 3 decimal places	a 0.091
b 1 decimal place.	b 0.1
9 Estimate to the nearest thousand.	
$\frac{(4.01 \times 10^3) \times (2.98 \times 10^3)}{1.99 \times 10^2}$	6000
10 If $p = 4$ , $r = 3$ , find the value of $\frac{p^2 + 8}{2r}$ .	4
11 $\frac{4}{n} = 2$ so $n =$	2
12 What is the largest number that is a factor of both 45 and 72?	9

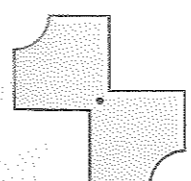
B	Answer
1 I buy a season ticket for £80 and make 32 journeys. How much per journey? £2.50	
2 I pay for a £182 camera in 52 equal instalments. How much is each payment? £3.50	
3 $2.2\text{lb} \approx 1\text{kg}$ . $4\frac{1}{2}\text{lb}$ is approximately 2kg	
4 $65\text{kg} \times 20 =$ 1t 300kg	
5 Write in 24-hour clock time seven minutes past midnight. 00:07	
6 Change 1m/s to metres per hour. 3600m/h	
7 How many tiles 20cm square are needed to cover a floor measuring 4m x 3m? 300	
8  Find	
a the area of the end of the cylinder	a 3.14cm <sup>2</sup>
b its volume.	b 15.7cm <sup>3</sup>
$\pi = 3.14$	
9  What is the number of axes of symmetry of this shape? 2	
10 Find the area of a carpet measuring 290cm long and 88cm wide to the nearest m <sup>2</sup> . 3m <sup>2</sup>	



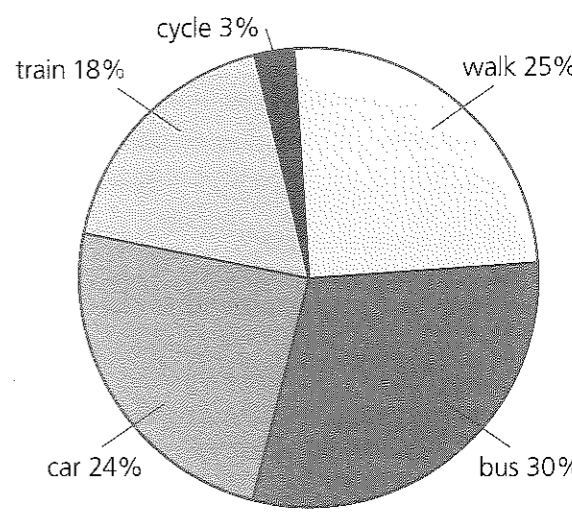
1 What distance in kilometres is represented by 1cm on the map? 10km	
2 The distance from Gosforth to Carlisle in a straight line is 65km. How far apart are these two towns on the map? 6.5cm	
Estimate to the nearest 10km the distances along the following routes. You may use a ruler to help you.	
3 Carlisle to the seaside town of Maryport. 40km	
4 Penrith to St. Bees via Cocker mouth. 70km	
5 Coniston to Carlisle by the shortest route. 90km	
6 Kendal to Aspatria in a straight line. 60km	
7 What area (in km <sup>2</sup> ) is represented by 1cm <sup>2</sup> on the map? 100km <sup>2</sup>	
8 What area is represented by the whole map? 4900km <sup>2</sup>	
9 By counting squares estimate what area of sea is shown by the map. 1000km <sup>2</sup>	
10 What percentage (to the nearest 10%) of the whole map shows sea? 20%	
11 If the map above were redrawn to a scale of 1:100 000 would it be larger or smaller than the one shown? larger	
12 If the map were redrawn to a scale of 1:50 000 what would be the straight line distance in centimetres from Gosforth to Carlisle on the map? 130cm	

# Mental Arithmetic 6 Answers

A	Answer
1 Write down the sum of the squares of 5 and 6.	61
2 $((2 + 3) \times 5) + 5 =$	30
3 Write $2^2 \times 2^3$ as	
a a number	a 32
b a power of two.	b $2^5$
4 Divide 150 in the ratio 7:3.	105 : 45
5 $3 \div \frac{1}{4} =$	12
6 $3.5 \times 0.3 =$	1.05
7 $\frac{2.4 \times 1.8}{2.4 - 1.8} =$	7.2
8 Round 478 711 to	
a one significant figure	a 500 000
b three significant figures.	b 479 000
9 Estimate to the nearest hundred.	
$\frac{(3 \times 10^3) \times (5 \times 10^3)}{10^4}$	1500
10 If $u = 4$ , $v = 5$ , $w = 6$ , find the value of $3v^2 - (2u^2 + w^2)$ .	7
11 $\frac{3}{p} - \frac{1}{2} = \frac{1}{4}$ so $p =$	4
12 Write down the highest common factor of 30 and 48.	6

B	Answer
1 Share £495 in the ratio 4:5. £220 : £275	
2 Games at £9.50 each are reduced by 10%. How much do I save if I buy three games? £2.85	
3 $4.5\text{ litres} \approx 1\text{ gallon}$ . 95 litres is approximately 21gal	
4 $18.4\text{kg} \div 8 =$ 2kg 300g	
= 2.3kg	
5 At 8.25 a.m. an oven is set to switch on $5\frac{1}{2}\text{h}$ later. At what time does it come on? 1.55 p.m.	
6 Change 1m/s to kilometres per hour. 3.6km/h	
7 How many packets measuring 6cm x 8cm x 15cm can be fitted into a box measuring 24cm x 30cm x 60cm? 60	
8 A parallelogram is drawn so that its smallest angle is half the size of its largest angle. What size is each angle? 60° 120°	
9  What is the order of rotational symmetry of this shape about its centre? 2	
10 A shape with an area of 16cm <sup>2</sup> is enlarged by a scale factor of 2. What is the area of the new shape? 64cm <sup>2</sup>	

# SECTION 3 | Test 7

C	Answer
The pie chart shows the results of a survey in a large city into how people travel to work.	
	
An office in the city has 513 employees. Use the pie chart to estimate the approximate number of office staff who travel to work by different means. (Hint: round the number of employees to the nearest 100 before you start.)	
1 travel to work by bus	150
2 walk to work	125
3 go to work by train	90
4 cycle to work	15
5 do not use a car to go to work	380
A shopping centre in the city has 4897 employees. Round this figure to a suitable value to help you to estimate the approximate number of shopping centre staff who travel to work by different means.	
6 go to work by bus	1500
7 either walk or cycle to work	1400
8 do not use a train to get to work	4100
9 do not use a car to get to work	3800
In this city about one million people go to work each day. Use this figure and the information in the pie chart to help you to answer the following questions.	
10 A train holds about 500 people. Approximately how many trains will be needed for those who go to work by train? 360	
11 About one-half of all the people who go to work by car are passengers. Approximately how many people who go to work each day by car are passengers? 120 000	
12 About two-thirds of bus passengers are women. What is the approximate number of women who travel to work by bus? 200 000	