A

	Answer
1 125 ÷ 0.1 =	1250
2 (80 ÷ 5) – 80 =	–64
3 500 000 = 5 × 10^x. Find x.	5
4 Change 4:5 to twentieths.	$\frac{16}{20}$
5 The ratio of green apples to red apples is 9:5. If there are 45 green apples how many red apples are there?	25
6 (0.125 × 8) × (0.25 × 4) =	1
7 $\frac{32.4}{5 \times 0.2}$ =	32.4
8 Approximate 5.005 to the nearest tenth.	5.0
9 Write 10^3 × 5.1 to the nearest thousand.	5000
10 If $a = 2$, $b = 3$, evaluate $a^2b + b^2a$.	30
11 $\frac{24}{x+7} = 2$ so x =	5
12 $(1.5)^2$ =	2.25

B

	Answer
1 Find the cost of 100 chocolates at eight for 50p.	£6.25
2 I buy 25 books at £1.40 each and sell the lot for £28. How much do I lose?	£7
3 245in =	6yd 2ft 5in
4 $7\frac{1}{2}$lb ÷ 12 =	10oz
5 How many minutes between 07:44 and 11:18?	214min
6 How long will it take a rocket moving at 12km/s to travel 324 000km?	7h 30min
7 How many ha in 5km²?	500ha
8 A square with 3cm sides was enlarged by the scale factor x. The area of the new square is 144cm². What is the value of x?	4
9  What is the order of rotational symmetry of the letter H about its centre?	2
10 If 2000 identical boxes have a total mass of 1.88t find the mass of a box to the nearest kilogram.	1kg

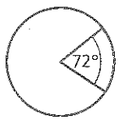
C

	Answer
Tom has four number cards.	
Each card has a single digit on it. Help Tom to arrange his cards to answer the following questions.	
1 What is the smallest three-digit number Tom can make?	1 4 6
2 What is the largest three-digit odd number Tom can make?	9 6 1
3 What is the smallest four-digit number Tom can make?	1 4 6 9
4 What is the largest four-digit even number Tom can make?	9 6 1 4
5 What is the smallest two-digit square number Tom can make?	1 6
6 What two-digit cubic number can Tom make?	6 4
7 Which cards can Tom use to show 13^2?	1 6 9
8 Which cards can Tom use to show 31^2?	9 6 1
Tom arranges his cards into two pairs. The digits on each pair form a square number.	
9 Which two square numbers did Tom make?	16 49
Tom arranges his four cards to give the biggest number he can make and then rearranges them to give the smallest number.	
10 What is the difference between these two numbers?	8172
Tom takes two cards, adds the digits together, squares the result and writes down the answer. He finds he can then rearrange the two remaining cards to show this answer.	
11 Which two digits did Tom add together?	1 6
12 What answer did Tom get when he squared the result?	49

A

	Answer
1 0.5 ÷ 0.1 =	5
2 (80 ÷ 5) + (80 × 5) =	416
3 Fill in the blanks. 3^4 =	3 × 3 × 3 × 3 = 81
4 Write $\frac{5}{8}$ as a decimal correct to three places.	0.625
5 The ratio of grapes to plums is 12:36. If there are 36 grapes how many plums are there?	108
6 0.1 × 0.2 × 0.3 =	0.006
7 $(\frac{12.8}{6.4})^2$ =	4
8 Approximate 1 470 000 to the nearest hundred thousand.	1 500 000
9 Write 10^4 × 1.29 to the nearest thousand.	13 000
10 If $x = 2$, $y = 3$, evaluate $x^3 - y$.	5
11 $2x - 12 = 0$ so x =	6
12 $(0.6)^2$ =	0.36

B

	Answer
1 Share £3.60 in the ratio 1:2.	£1.20 : £2.40
2 Which is the better buy a 25 for 40p or b 60 for £1?	a
3 150lb =	10st 10lb
4 3 miles = yd	5280yd
5 How many minutes between 21:53 and 02:42?	289min
6 What is my speed if I travel $\frac{1}{4}$ mile in $\frac{1}{2}$min?	30mph
7  The area of the circle is 78.5m². Find the area of the shaded sector.	15.7m²
8 A square with an area of 4cm² is enlarged by the scale factor 3. What is the area of the new square?	36cm²
9  What is the order of rotational symmetry of a regular pentagon about its centre?	5
10 Five equal pieces of wood are cut from a plank 2.4m long. What is the length of each piece of wood to the nearest 10cm?	50cm

C

	Answer
Mum takes Leo and Paige out for lunch. The restaurant is serving a three-course meal. The menu is shown below.	

Menu

Starter
mushroom soup
chicken wings

Main
Thai green curry
chicken salad
vegetable lasagne

Dessert
chocolate tart
strawberry cheesecake
ice-cream

Leo orders his meal first.

1 In how many ways can Leo choose his starter?	2
2 In how many ways can Leo choose his main course?	3
3 How many different combinations of starter and main course can Leo choose from?	2 × 3 = 6
4 In how many ways can Leo choose his dessert?	3
5 How many different combinations of all three courses can Leo choose from?	2 × 3 × 3 = 18

Leo chose mushroom soup for his starter, chicken salad for his main course and ice-cream for dessert. When Paige orders her meal she decides to make a different choice on every course from that of her brother.

6 Write down the possible choice for Paige's meal.	
Starter	chicken wings
Main	Thai green curry or vegetable lasagne
Dessert	chocolate tart or strawberry cheesecake
7 In how many ways could Paige choose her starter course?	1
8 In how many ways could Paige choose her main course?	2
9 In how many ways could Paige choose her dessert course?	2
10 How many different combinations of all three courses could Paige choose from?	1 × 2 × 2 = 4

When Mum makes her choice she decides to differ from both her children but then discovers she cannot do this on every course.

11 On which course must she choose the same as either Leo or Paige?	starter
12 In how many ways could Mum choose each of her other two courses?	1