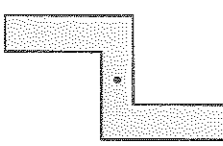
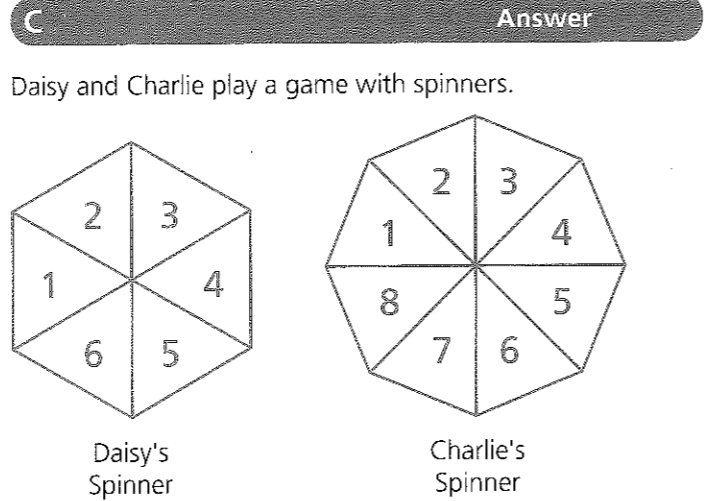


**SECTION 3 | Test 2**

Schofield & Sims

- A** **Answer**
- Write down the product of 142 and 9. 1278
  - $(72 + 56) \div (72 - 56) =$  8
  - Write in digits nineteen hundred and eight. 1908
  - Arrange in ascending order:  
 $\frac{3}{4}, \frac{2}{3}, \frac{4}{5}, \frac{5}{8}, \frac{1}{2}$   $\frac{1}{2} < \frac{5}{8} < \frac{2}{3} < \frac{3}{4} < \frac{4}{5}$
  - Divide 147 in the ratio 2:5. 42 : 105
  - $0.705 + 0.09 + 1.03 =$  1.825
  - $0.4 \times (4 - 0.08) =$  1.568
  - Round 16.2534865 to the nearest ten thousandth. 16.2535
  - Calculate correct to three decimal places.  $2.43 \div 9$  0.270
  - If  $x = 2, y = 3, z = 5$ , find the value of  $x^2 + y^2 + z^2$ . 38
  - $3p^2 = 48$  so  $p =$  4
  - Express 42 as a product of three prime numbers.  $2 \times 3 \times 7 = 42$

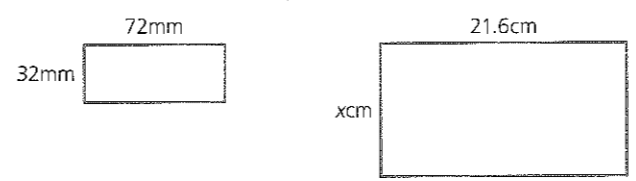
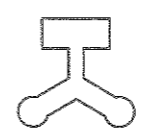
- B** **Answer**
- Share £115 in the ratio 3:2. £69 : £46
  - I buy a box of 48 oranges for £5 and sell them at 15p each. What is my profit? £2.20
  - 10cm is approximately 4in
  - 1ha = 10000m<sup>2</sup>
  - Which of these years was in the 2nd millennium BCE?  
2850 BCE, 1725 BCE, 986 BCE 1725 BCE
  - How long will it take to travel 2000m at 120km/h? 1min
  - Abdul runs 100m in 12.5s. What is his mean (average) speed in m/s? 8m/s
  - At what angle do the diagonals of a kite cross each other? 90°
  -  What is the order of rotational symmetry of this shape about its centre? 2
  - Approximate 3098mm to the nearest centimetre. 310cm



- Express your answers as fractions in their lowest terms.
- What is the probability of Daisy spinning a 6?  $\frac{1}{6}$
  - What is the probability of Charlie spinning a 6?  $\frac{1}{8}$
  - What is the probability of Daisy not spinning a 6?  $\frac{5}{6}$
  - What is the probability of Charlie not spinning a 6?  $\frac{7}{8}$
  - What is the probability of Daisy spinning an odd number?  $\frac{1}{2}$
  - What is the probability of Charlie not spinning an odd number?  $\frac{1}{2}$
  - What is the probability of Daisy spinning either a 5 or a 6?  $\frac{1}{3}$
  - What is the probability of Daisy spinning a number greater than 4?  $\frac{1}{3}$
  - What is the probability of Charlie spinning a number greater than 4?  $\frac{1}{2}$
  - What is the probability of Charlie spinning a number less than 4?  $\frac{3}{8}$
  - What is the probability of Charlie spinning either a number greater than 4 or a number less than 4?  $\frac{7}{8}$
  - Explain why the answer to question 11 is less than 1. It does not include the probability of spinning exactly 4.

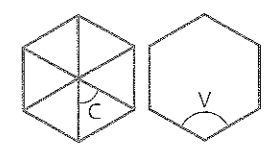
**Mental Arithmetic 6 Answers**

- A** **Answer**
- Write down the sum of 526 and 625. 1151
  - $((15 + 45) \div 3) \div 2 =$  10
  - Write in digits forty-six thousand and forty-six. 46046
  - $33\% > \frac{1}{3}$   
True or false? false
  - Reduce 120 by  $33\frac{1}{3}\%$ . 80
  - $2.2 \times 0.03 =$  0.066
  - $\frac{8.4}{0.3 + 0.4} =$  12
  - Round 0.00985 to the nearest thousandth. 0.010
  - Estimate to the nearest ten.  $\frac{48.97 \times 52.6}{25.12}$  100
  - If  $m = 4, n = 5, q = 6$ , find the value of  $m(q^2 - n^2)$ . 44
  - $\sqrt{r} = 9$  so  $r =$  81
  - Write down the prime factors of 20.  $2 \times 2 \times 5 = 20$

- B** **Answer**
- If 45 envelopes cost £1.35 how much is this per envelope? 3p
  - Calculate the interest at 7.5% on a loan of £4000. £300
  - 60cm is approximately 2ft
  - 32km is approximately 20 miles
  - In a race Molly beat the previous school record of 23.17s by  $\frac{31}{100}$ s. What was Molly's new time? 22.86s
  - How long will it take to travel 42km at 18km/h? 2h 20min
  - A tank of volume 9m<sup>3</sup> has a square base of side 1.5m. How tall is the tank? 4m
  - These are similar rectangles. Find x. 9.6cm
- 
-  What is the number of axes of symmetry of this shape? 3
  - Approximate 355in to the nearest yard. 10yd

**SECTION 3 | Test 3**

The table shows a spreadsheet that Ella used to investigate the angle properties of regular polygons. Two cells are empty. The diagram of a hexagon shows how Ella labelled the centre and interior angles.



	A	B	C	D
1	Number of sides, N	Centre angle, C	Interior angle, V	Sum of interior angles
2	3	120	60	180
3	4	90	90	360
4	5	72	108	540
5	6	60	120	720
6	7	51.4	128.6	900
7	8	45	135	1080
8	9	40	140	1260
9	10	36	144	1440

- Which row of the spreadsheet represents a hexagon? 5
- What shape is represented by row 3 of the spreadsheet? square
- The formula used in the spreadsheet to calculate the angle at the centre of a hexagon was  $360 \div A5$ . What value does this give for the centre angle? 60
- Into which empty cell should this value be entered? B5
- What formula was used to find the centre angle of a ten-sided decagon?  $360 \div A9$
- To find the interior angle of a pentagon the formula  $180 - B4$  was used. What value of angle does this give? 108
- Into which empty cell should this value be entered? C4
- What formula was used in the spreadsheet to find the interior angle of a seven-sided heptagon?  $180 - B6$
- What value results from using the formula  $C9 * A9$ ? 1440
- Which cell contains this value? D9
- What does this value represent? sum of interior angles of decagon
- What formula was used to find the sum of the interior angles of an octagon?  $C7 * A7$