A — Answer
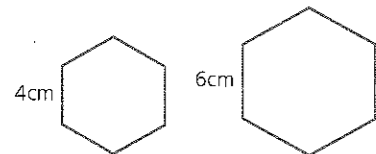
1 Write down the difference between 308 and 803. 495

2 $45 \div ((3 \times 3) + (2 \times 3)) =$ 3

3 Write in digits one million, thirty thousand and seven. 1 030 007

4 Arrange in descending order:
   0.81, $\frac{8}{10}$, 1.08, 0.18 $1.08 > 0.81 > \frac{8}{10} > 0.18$

5 Divide 192 in the ratio 3:5. 72 : 120

6 $4.8 \div 8 =$ 0.6

7 $\frac{8.4}{0.3 \times 0.4} =$ 70

8 Write 4703 correct to one significant figure. 5000

9 $5 < \frac{14 \times 21}{42} < 10$ True or false? true

10 If $a = 5$, $b = 3$, find the value of $b^3 - a^2$. 2

11 $\frac{1}{2}x^2 = 12.5$ so $x =$ 5

12 Write the next two terms of the sequence.
   $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8},$, $\frac{1}{16}$ $\frac{1}{32}$

B — Answer

1 If 500 marshmallows cost £12.50 how many marshmallows do I get for £1? 40

2 I exchange £220 into Euros at 1.3 Euros to £1. How many Euros do I get? €286

3 90cm is approximately 1yd

4 9.6km is approximately 6 miles

5 Change 18 minutes to midnight to 24-hour clock notation. 23:42

6 How far does a plane flying at 720km/h travel in 65min? 780km

7 Two angles in an isosceles triangle are each double the size of the third angle. What is the size of the third angle? 36°

8 These are similar shapes. Find the scale factor of enlargement. 1.5

9 What is the order of rotational symmetry of this shape about its centre? 1

10 Five boxes have a mass of 2925g each. Find the total mass to the nearest kilogram. 15kg

C — Answer

PrestoPrint – Online price list

Printing	No. of pictures	Finish	Cost per print	Cost of prints	Extra set of prints	Total cost of order
6 × 4	48	Gloss	£0.11	£5.28	£2.50	£7.78
6 × 4	60	Matt	£0.14	£8.40	£2.50	£8.40
7 × 5	24	Gloss	£0.16	£3.84	£2.50	£8.84
7 × 5	36	Matt	£0.19	£6.84	£2.50	£11.84
8.5 × 6	36	Gloss	£0.23	£8.28	£2.50	£8.28
8.5 × 6	26	Matt	£0.28	£7.28	£2.50	£7.28
				Total cost of printing		£52.42

Ali has started adding his order to the form above.

1 How many pictures is Ali sending to PrestoPrint? 24

2 Does Ali want matt or gloss finish? gloss

3 What size prints does Ali want? 7 × 5

4 How much will Ali pay for an extra set of prints? £2.50

5 If Ali has two extra sets of prints what will be the total cost of his order? £8.84

Evie wants 96 pictures printed. She wants 60 6 × 4 matt prints, 36 8.5 × 6 gloss prints and she does not want any extra prints. Fill in Evie's order on the form above.

6 What will it cost Evie for her 6 × 4 prints? £8.40

7 What will it cost Evie for her 8.5 × 6 prints? £8.28

8 What is the total cost of Evie's order? £16.68

Jack wants 48 gloss prints at 6 × 4 and an extra set of these. He also wants 26 matt prints at 8.5 × 6 with no extra set and 36 matt prints at 7 × 5 with two extra sets. Fill in Jack's order on the form above.

9 What will it cost Jack for his 6 × 4 prints including his extra set? £7.78

10 What will it cost Jack for his 7 × 5 prints including his extra sets? £11.84

11 What is the total cost of Jack's order? £26.90

12 What is the total cost of printing all the pictures? £52.42

A — Answer

1 Write down the remainder when 85 is divided by 9. r 4

2 $(45 \div (3 \times 3)) + (2 \times 3) =$ 11

3 $27 = 3^x$. Find x. 3

4 Divide 300 in the ratio 1:5. 50 : 250

5 Add 20% of 30 to 40% of 50. 26

6 $8 \div 0.25 =$ 32

7 $(0.5 \times 0.2) + (0.5 \div 0.2) =$ 2.6

8 Round 9.997
   a to 2 decimal places a 10.00
   b to 2 significant figures. b 10

9 $5 < \frac{3603}{61 \times 9} < 10$ True or false? true

10 If $h = 2$, $k = 3$, find the value of $hk^2 + h^2k$. 30

11 $2k - 5 = k$ so $k =$ 5

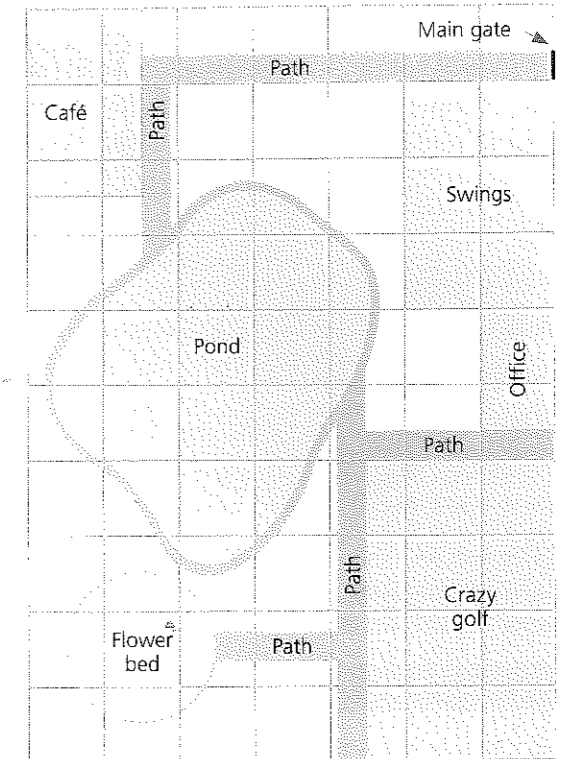12 List those numbers (except 1) that are factors of both 18 and 30. 2 3 6

B — Answer

1 I buy three ice-cream sundaes for £2.80 each. How much change do I get from £10? £1.60

2 A £150 bicycle is reduced by 12% in a sale. Find the new price. £132

3 80in is approximately 2m

4 1g = 1000mg

5 How many minutes in one day? 1440min

6 How long will it take to travel 84km at 48km/h? 1h 45min

7 Find the area of a circle whose radius is 10mm.
   $A = \pi r^2$ $\pi = 3.14$ 314mm²

8 If O is the centre of the circle, what size is angle x? 40°

9 What is the number of axes of symmetry of this road sign? 0

10 Approximate 12lb 13oz to the nearest stone. 1st

C — Answer

The diagram shows a plan of Mountjoy Park. The gridlines are spaced 1cm apart.

Scale 1 : 1000

1 What distance in metres is represented by 1cm on the plan? 10m

2 Estimate the area used for the swings. 600m²

3 Estimate the area used for crazy golf. 1000m²

4 Estimate the area of the office. 160m²

5 Estimate the area of the pond to the nearest 100m². (Hint: count part squares equal to half or more as full squares and ignore squares less than half.) 1300m²

6 If the pond has a mean depth of 60cm estimate the volume of water to the nearest 100m³. 800m³

7 Estimate to the nearest 10m the length of the path around the pond. 130m

8 Estimate the diameter of the flower bed. 20m

9 Estimate the area of the flower bed to the nearest 100m². 300m²

10 Estimate the width of the straight paths. (Hint: look carefully at the paths near the café and the crazy golf.) 4m

11 Estimate to the nearest 10m the total length of the straight paths. 170m

12 Estimate to the nearest 10m the distance along paths by the shortest route from the main gate to the flower bed. 160m