Day 235	B Tier 10-a-day
1 Expand and simplify $(x + 4)(x + 7)$	
2 Write each number as an ordinary number. (a) 2.8×10^4 (b) 2.7×10^{-5}	
3 The nth term of a sequence is $9n - 3$ (a) Work out the 8th term. (b) Is 159 a term in the sequence? You must show how you get your answer.	
4 A cone has base radius 7 cm and vertical height 3 cm. Volume of a cone = $\frac{1}{3}\pi r^2 h$ Work out the volume of the cone. Give your answer in terms of π.	
5 Priya has $\frac{5}{8}$ of £136. Sophie has 45% of £320. Who has more money? You must show your working.	

Day 235 **B Tier 10-a-day**

6 Solve $\frac{y}{2} + 4 = 6$

7 80 snails in a lake are caught, tagged and returned to the lake.
Later, a sample of 40 snails is caught and 10 of them are tagged.
Estimate the total number of snails in the lake.

8 The circumference of a circle is 26π m.
Work out the radius of the circle.

9 The table shows the lengths of some leaves.
(a) Write down the modal class.
(b) Work out an estimate for the mean.

Length, l (cm)	Frequency
$10 < l \leq 30$	3
$30 < l \leq 50$	3
$50 < l \leq 70$	10
$70 < l \leq 90$	9

10 The diagram shows two circles with the same centre.
The radius of the larger circle is 14 cm.
The radius of the smaller circle is 12 cm.
Work out the area of the shaded region.
Give your answer in terms of π.
The diagram is not drawn accurately.

