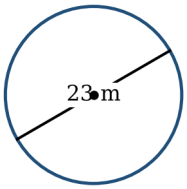
Day 54	B Tier 10-a-day
1 The angles in a triangle are x°, 3x° and (x + 25)°. (a) Work out the value of x. (b) Work out the size of the largest angle.	
2 Expand and simplify $(x + 4)^2$	
3 Write each answer as a single power of 7. (a) $(7^2)^4$ (b) $7^4 \times 7^4 \div 7^1$	
4 The diagram shows a circle with diameter 23 m. (Calculator) Work out the circumference of the circle. Give your answer correct to 1 decimal place. The diagram is not drawn accurately. 	
5 $y = 4x^2 - 6x + 3$ Work out the value of y when x = 4	

Day 54	B Tier 10-a-day
6 $\mathbf{a} = \begin{pmatrix}5\\3\end{pmatrix}$ $\mathbf{b} = \begin{pmatrix}7\\5\end{pmatrix}$ Work out (a) $2\mathbf{a} - \mathbf{b}$ (b) $3\mathbf{a} + 2\mathbf{b}$	
7 A car travels 25 km on each litre of petrol. (Calculator) Petrol costs £1.30 per litre. Work out the cost of the petrol for a journey of 500 km.	
8 The length of a rectangle is 17 cm and its width is 13 cm. Both measurements are correct to the nearest cm. Work out the upper bound for the perimeter of the rectangle.	
9 The equation $x^3 + 3x = 71$ has a solution between 3 and 4. (Calculator) Use trial and improvement to find this solution. Give your answer correct to 1 decimal place.	
10 A bag contains 7 mint sweets and 6 toffee sweets. Leo takes one at random and does not replace it, then takes a second. Work out the probability that both are mint.	