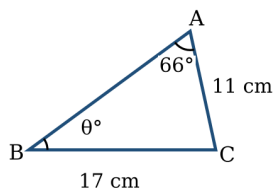
Day 33	S Tier 10-a-day
1 Jamal invested £18,500 in a savings account for 3 years. Compound interest was paid at a fixed rate per year. At the end of the 3 years the account held £24,623.50. Work out the annual rate of interest. (Calculator)	
2 Write these numbers in order of size, starting with the smallest. 0.73, $\frac{1}{4}$, 56%, 69%	
3 A and B are two events. P(A) = 0.6, P(B) = 0.4 and P(A or B) = 0.9 (a) Work out P(A and B). (b) Are A and B independent? You must show your working.	
4 Solve $3x^2 + 7x - 5 = 0$ (Calculator) Give your answers correct to 2 decimal places.	
5 The diagram shows triangle ABC. (Calculator) Angle BAC = 66° and angle ABC is acute. Work out the size of angle ABC, marked θ. Give your answer correct to 1 decimal place. The diagram is not drawn accurately.  	

Day 33 **S Tier 10-a-day**

6 A bath is $\frac{3}{5}$ full.

40 more litres of water are added and the bath is then $\frac{4}{5}$ full.

Work out the capacity of the bath.

7 The equation $x^2 + 8x + k = 0$ has two different real solutions.

Find the range of possible values of k.

8 The table shows the daily visitors over six periods.

The 3-point moving average centred on Thu is 24.

(a) Work out the value of x.

(b) Work out the 3-point moving average centred on Fri.

	Mon	Tue	Wed	Thu	Fri	Sat
Value	17	22	26	x	19	11

9 ABCD is a rectangle with AB = 12 cm and AD = 13 cm.

A point P inside the rectangle is such that AP ≤ 12 cm and P is nearer to A than to B.

Work out the area of the region in which P can lie. Give your answer in terms of π and surds.

10 Simplify fully $\frac{x^2 + 8x + 15}{x^2 - 7x} \times \frac{x^2 + 6x}{x + 3}$