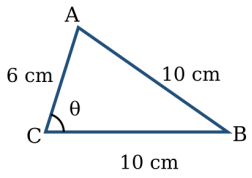
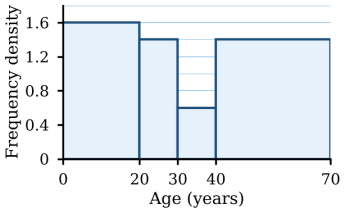
Day 115	S Tier 10-a-day
1 The 5th term of an arithmetic sequence is 24. The 10th term of the sequence is 39. (a) Find an expression for the nth term of the sequence. (b) Is 81 a term of the sequence? You must show your working.	
2 Write these numbers in order of size, starting with the smallest. $\frac{4}{5}$, $\frac{5}{11}$, $\frac{3}{11}$, 0.82	
3 A sector of a circle has angle 150° and area 15π cm^2. (a) Work out the radius of the circle. (b) Work out the length of the arc of the sector. Give your answer to (b) in terms of π.	
4 The product of two positive numbers is 72. The larger number is 1 more than the smaller number. Let the smaller number be n. (a) Show that $n^2 + n - 72 = 0$ (b) Work out the two numbers.	
5 Given that $\frac{27^4 \times 9}{9^2} = 3^n$, find the value of n.	

Day 115	S Tier 10-a-day

6 The diagram shows triangle ABC. (Calculator)
(a) Work out angle ACB, marked θ, to 1 decimal place.
(b) Work out the area of triangle ABC to 3 significant figures.
The diagram is not drawn accurately.



7 The histogram shows the ages of visitors to a museum.
(a) Work out the total number of visitors.
(b) Estimate the number of visitors with an age between 35 years and 65 years.



8 A circle has equation $x^2 + y^2 = 25$.
The point P(3, 4) lies on the circle.
(a) Find the equation of the tangent to the circle at P. Give your answer in the form ax + by = c, where a, b and c are integers.
(b) The tangent meets the x-axis at the point T.
Write down the coordinates of T.

9 a = 0.898 and b = 0.234, both correct to 3 significant figures.
Work out a × b.
Write down your answer to a suitable degree of accuracy.
You must show your working and give a reason for your answer. (Calculator)

10 P is inversely proportional to t.
When t = 4, P = 2.
Find the positive value of t when P = 1.