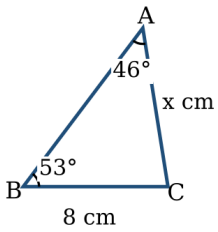
Day 203	S Tier 10-a-day
1 A bag contains some counters. 6 of them are green and the rest are white. Two counters are taken at random without replacement. The probability that both are green is $\frac{15}{28}$. Work out how many counters are white.	
2 ABC is an isosceles triangle with AB = AC. Angle BAC = (5x + 10)° Angle ABC = (2x + 22)° (a) Work out the value of x. (b) Work out the size of angle BAC.	
3 A red light flashes every 6 minutes. A blue light flashes every 8 minutes. A green light flashes every 18 minutes. They all flash together at 6:00 am. How many times do they all flash together between 6:00 am and 3:00 pm, including both 6:00 am and 3:00 pm if they do?	
4 The diagram shows triangle ABC. (Calculator) Work out the length of AC. Give your answer correct to 1 decimal place. The diagram is not drawn accurately. 	
5 Work out $(2.7 \times 10^{-2})^3$ Give your answer in standard form.	

Day 203	S Tier 10-a-day

6 Make x the subject of $y = \frac{6x - 6}{3x - 4}$

7 x : y = 8 : 5
Work out the ratio (6x − 3y) : (2x + 1y)
Give your answer in its simplest form.

8 A rectangle has length 25 cm and width 7 cm.
Both measurements are correct to the nearest centimetre.
Kofi says that the perimeter of the rectangle could be exactly 64 cm.
Is Kofi correct? You must show your working.

9 The equation $2x^2 + 6x + k = 0$ has two different real solutions.
Find the range of possible values of k.

10 OAB is a triangle. OA = **a** and OB = **b**.
M is on OA with OM : MA = 1 : 1. N is on OB with ON : NB = 3 : 1. AN and BM intersect at X.
(a) Find BM in terms of **a** and **b**.
(b) Find OX in terms of **a** and **b**.
The diagram is not drawn accurately.

