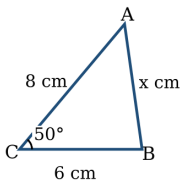
Day 234	S Tier 10-a-day
1 The mean of 11 numbers is 79. One number is removed and the mean of the remaining 10 numbers is 86.3. Work out the number that was removed.	
2 Given that $\sqrt{7} = \sqrt{n}$, find the value of n.	
3 Simplify fully $\frac{5x^2 - 125}{x^2 - 9x + 20}$	
4 A red light flashes every 7 minutes. A blue light flashes every 9 minutes. A green light flashes every 21 minutes. They all flash together at 7:00 am. How many times do they all flash together between 7:00 am and 3:00 pm, including both 7:00 am and 3:00 pm if they do?	
5 The diagram shows triangle ABC. (Calculator) (a) Work out the length of AB, marked x, to 1 decimal place. (b) Work out the area of triangle ABC to 3 significant figures. The diagram is not drawn accurately. 	

Day 234	S Tier 10-a-day
6 A train travels the first half of a journey at 50 km/h. It travels the second half of the same journey at 75 km/h. Work out the average speed for the whole journey.	
7 A rare car is worth £1,200. Its value increases by 10% each year. After how many whole years will it first be worth more than £2,100? (Calculator)	
8 The mean of the heights in cm for the boys is 45. The mean of the heights in cm for the girls is 41. The mean for all of the boys and girls together is 42.6. Work out the ratio of the number of boys to the number of girls.	
9 ABCD is a rectangle with AB = 4 cm and AD = 9 cm. A point P inside the rectangle is such that AP $\leq$ 4 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 Solve the simultaneous equations $x^2 + y^2 = 65$ $y = -x + 11$	