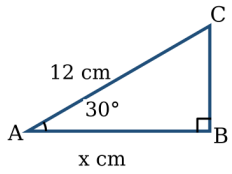
Day 124	S Tier 10-a-day
1 Solve $3x^2 + 7x - 3 = 0$ (Calculator) Give your answers correct to 2 decimal places.	
2 20 deer in a forest are caught, marked and put back. Later, a second sample of 120 deer is caught. 2 of these are marked. (a) Work out an estimate for the number of deer in a forest. (b) State one assumption you have made.	
3 Solve $x - 12\sqrt{x} + 35 = 0$	
4 Work out $(\frac{81}{16})^{-\frac{1}{4}}$	
5 Expand and simplify $(x - 4)^2(x - 1)$	

Day 124	S Tier 10-a-day
6 A barrel is $\frac{1}{5}$ full. 18 more litres of oil are added and the barrel is then $\frac{1}{4}$ full. Work out the capacity of the barrel.	
7 ABC is a right-angled triangle. Work out the exact value of x. Give your answer in its simplest form. The diagram is not drawn accurately. 	
8 A is 25% more than R. R is 5% less than C. Work out A as a percentage of C.	
9 ABCD is a rectangle with AB = 12 cm and AD = 14 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 Evan invested £17,500 in a savings account for 2 years. Compound interest was paid at a fixed rate per year. At the end of the 2 years the account held £18,928. Work out the annual rate of interest. (Calculator)	