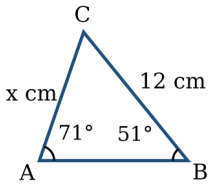
Day 28	A Tier 10-a-day
1 (a) Between which two consecutive whole numbers does $\sqrt[3]{70}$ lie? (b) Work out $4^3 - 5^2$	
2 Angle XYL is drawn on a piece of paper. A point P moves so that it is always the same distance from line YX and line YL. Describe the locus of P.	
3 Expand and simplify $(x - 5)^2 - (x + 4)(x + 3)$	
4 A stone has a volume of 250 cm^3. The density of the material is 8.9 g/cm^3. Work out the mass of the stone.	
5 Solve $3x^2 - 9x - 3 = 0$ Give your solutions correct to 2 decimal places. (Calculator)	

Day 28	A Tier 10-a-day

6 Work out the value of x. (Calculator)
Give your answer to 3 significant figures.
The diagram is not drawn accurately.

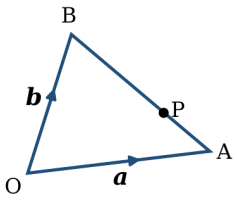


7 (a) Show that $0.\dot{2}\dot{6} = \frac{26}{99}$

(b) Hence write $4.\dot{2}\dot{6}$ as a mixed number in its simplest form.

8 There are 41 students in a class.
24 students do tennis and 21 students do badminton.
6 students do neither.
(a) Work out how many students do both.
(b) One student is chosen at random. Find the probability that they do tennis only.

9 OAB is a triangle. $\overrightarrow{OA} = \mathbf{a}$ and $\overrightarrow{OB} = \mathbf{b}$.
P is the point on AB such that AP : PB = 1 : 2.
Find $\overrightarrow{OP}$ in terms of **a** and **b**.



10 A school has 50 students in Year 9, 80 in Year 10 and 130 in Year 11.
A stratified sample of 26 students is to be taken.
Work out how many students should be chosen from Year 10.