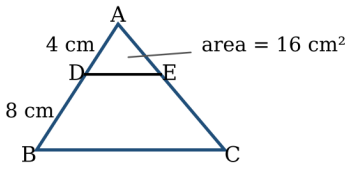
Day 73	IGCSE 10-a-day
1 A flight leaves London at 06:30 (London time). It takes 13 hours 10 minutes. When it is 12:00 in London it is 04:00 in Los Angeles. At what time, in Los Angeles time, does the flight land? Say if it is on a different day.	
2 $\mathbf{v} = \begin{pmatrix} 7 \\ 24 \end{pmatrix}$. Work out $\lvert\mathbf{v}\rvert$.	
3 Here are five numbers: $x + 4$, $x + 6$, $x + 2$, $3x + 5$, $2x - 1$. The mean of the five numbers is 16. (a) Work out the value of x. (b) Work out the range of the five numbers.	
4 A particle P moves in a straight line. After t seconds, its displacement from a fixed point O is s metres, where $s = t^3 - 12t^2 + 36t + 6$ $(t \geq 0)$ Find the acceleration of P at each instant when it is at rest.	
5 A spinner numbered 1 to 4 and a spinner numbered 1 to 5 are each thrown once. The first score and the second score are recorded. (a) Work out the probability that the sum is a multiple of 3. (b) Given that at least one number is 3, work out the probability that the sum is a multiple of 3.	

Day 73 **IGCSE 10-a-day**

6 In the diagram, DE is parallel to BC. AD = 4 cm, DB = 8 cm and the area of triangle ADE is 16 cm^2.
Work out the area of the trapezium DBCE.
The diagram is not drawn accurately.



7 Two curves have equations $y = 4x^2 - 5x - 7$ and $y = 3x^2 - x + 9$.
Find the value of x at which the curves have the same gradient.

8 A is the point $(-7, -1)$ and B is the point $(-5, -11)$.
Find an equation of the perpendicular bisector of AB.
Give your answer in the form $ax + by = c$, where a, b and c are integers.

9 $f(x) = \frac{4x - 4}{x - k}$, where k is a constant and $x \neq k$.
The function f is its own inverse, so $f^{-1}(x) = f(x)$.
Find the value of k.

10 A curve has equation $y = 3x^2 + \frac{6}{x}$.
(a) Show that the curve has a stationary point at x = 1.
(b) Find the y coordinate of this point and decide whether it is a maximum or a minimum.