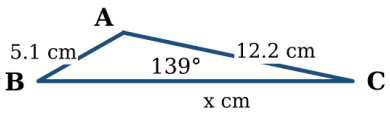
Day 183 **IGCSE 10-a-day**

1 Work out the length of BC.
Give your answer correct to 3 significant figures. (Calculator)



2 $y = x(x + 3)(2x - 1)$
Work out the gradient of the curve at the point where $x = -1$.

3 $n(\xi) = 120$, $n(A) = 49$, $n(B) = 37$ and $n(A \cap B) = 33$.
Find $P(A \mid B)$ and $P(B \mid A')$.

4 $y = \frac{(x + 3)^2}{x}$ $(x \neq 0)$

(a) Show that $\frac{dy}{dx} = \frac{(x - 3)(x + 3)}{x^2}$.

(b) Find the gradient when $x = 4$.

5 Dina puts £10,000 in a savings account.
Compound interest is paid at 6% in year 1, 3% in year 2 and 4% in year 3.
Work out the amount in the account at the end of year 3.
Give your answer to the nearest penny.
(Calculator)

Day 183	IGCSE 10-a-day
6 A curve has equation $y = (x + 4)(x + 3)(x - 1)$. Work out the gradient of the curve at each point where it crosses the x-axis.	
7 The nth term of a sequence is $n^2 + n + 4$. (a) Work out the 11th term. (b) Is 346 a term of the sequence? You must show your working.	
8 A train travels at a constant speed of 90 km/h. It takes 60 seconds to cross completely over a bridge which is 1,310 m long. Work out the length of the train, in metres.	
9 Solve $x^4 - 65x^2 + 784 = 0$	
10 A is the point $(-1, 0)$ and B is the point $(-3, -8)$. 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.	