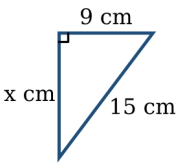
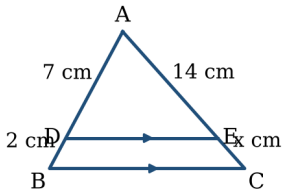
Day 163	A Tier 10-a-day
1 Without using a calculator, work out the exact value of $3 \tan 45° - 5 \cos 30°$ Give your answer in its simplest form.	
2 $x_{n+1} = \frac{8}{(x_n + 5)}$ $x_0 = 3$ Work out the values of x_1, x_2 and x_3. Give your answers correct to 3 decimal places. (Calculator)	
3 A bicycle costs £960 including VAT at 20%. Work out the price of the bicycle before VAT was added.	
4 Work out the length of x. The diagram is not drawn accurately. 	
5 (a) Simplify $\sqrt{90}$ (b) Simplify $\sqrt{90} + \sqrt{90}$	

Day 163 **A Tier 10-a-day**

6 In triangle ABC, DE is parallel to BC.
D is on AB and E is on AC.
Work out the value of x.
The diagram is not drawn accurately.



7 Show that $\frac{\sqrt{108} - \sqrt{27}}{\sqrt{3}}$ is an integer, and find its value.

8 Grace earns £25000 a year.
She pays no tax on the first £15000.
She pays 30% tax on the rest.
Work out how much tax she pays in a year.

9 The table gives information about 151 measurements.
A histogram is drawn using this information.
(a) Work out the missing frequency.
(b) Work out the height of the bar for the class $45 < h \leq 75$.

Height, h (cm)	Frequency
$10 < h \leq 25$	9
$25 < h \leq 45$	16
$45 < h \leq 75$	78
$75 < h \leq 95$	?

10 Expand and simplify
$(x - 1)(x + 5)(x - 5)$