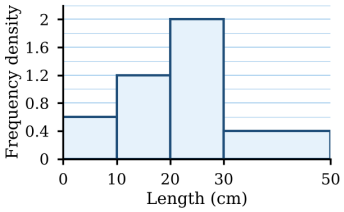
Day 129	IGCSE 10-a-day
1 Solve $12x^2 + 25x = 7$	
2 Work out $4.9 \times 10^0 + 2.2 \times 10^{-2}$. Give your answer in standard form.	
3 $y = x^4 - \frac{5}{x}$ (a) Find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$. (b) Work out the value of $\frac{d^2y}{dx^2}$ when $x = 3$.	
4 (a) Solve $7 - 2x > -11$ (b) n is an integer. Write down all the values of n that satisfy $3 \leq 4n - 5 \leq 15$	
5 $y = -4x^{5/2} + 8x^{3/2} + 3x$ Find $\frac{dy}{dx}$. Give each term of your answer in the form ax^n.	

Day 129 **IGCSE 10-a-day**

6 The histogram shows the lengths of leaves collected from a tree.
(a) Work out the total number of leaves.
(b) Estimate the number of leaves with a length between 15 cm and 35 cm.



7 The line $y = -8x + 10$ meets the curve $y = -2x^2 - 4x + 8$.
Show that the line is a tangent to the curve and find the coordinates of the point where they touch.

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

9 The point P(−3, −1) is reflected in the y-axis.
The image is then rotated 180° about the origin.
(a) Write down the coordinates of the final image of P.
(b) Describe fully the single transformation that is equivalent to these two transformations.

10 A = (−4, −2), B = (−9, 3) and C = (−9, −7).
Show that triangle ABC is isosceles and right-angled.