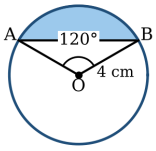
Day 136	S Tier 10-a-day
1 Each interior angle of a regular polygon is 150°. Work out the number of sides of the polygon.	
2 Work out the square root of 8.41×10^{12}. Give your answer in standard form.	
3 Dina changes £400 into euros at £1 = €1.15. Dina spends €180 and then changes the rest back into pounds at £1 = €1.4. How many pounds does Dina get back?	
4 The circle has centre O and radius 4 cm. A and B are points on the circle and angle AOB = 120°. (Calculator) Work out the area of the shaded segment. Give your answer correct to 3 significant figures. The diagram is not drawn accurately. 	
5 10 painters can paint a hall in 8 days. After 5 days, 5 of the painters leave. The rest carry on working at the same rate. How many more days does it take to finish?	

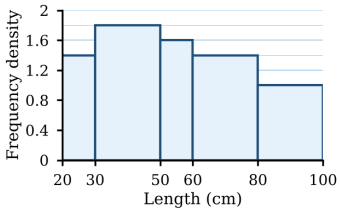
Day 136 **S Tier 10-a-day**

6 The point P(12, −4) lies on the graph of y = f(x).
Write down the coordinates of the image of P on the graph of
(a) y = f(−x) (b) y = f(x) − 3

7 Simplify fully $\frac{7^{n+2} - 7^n}{48}$

8 Write $\frac{16^{n+1} \times 8^{n-2}}{16^n}$ in the form 2^{an+c}
where a and c are integers.

9 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 40 cm and 55 cm.



10 $f(x) = \frac{7}{x - 4} + 3$
(a) Find $f^{-1}(x)$.
(b) Find the value of $f^{-1}(-4)$.