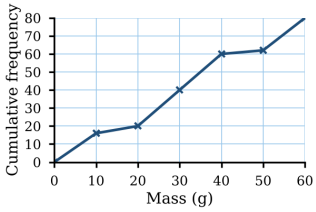
Day 9	S Tier 10-a-day
1 The interior angles of a hexagon are $x°$, $(x + 15)°$, $(x + 20)°$, $(x + 30)°$, $(2x - 15)°$, $(2x - 10)°$ (a) Work out the value of x. (b) Work out the size of the largest angle.	
2 Work out the value of $(p - q)^2 - (p + q)^2$ when $p = -4$, $q = 2$ and $r = -1$.	
3 The 4-digit number 831k is a multiple of 4. k is a single digit. Find all the possible values of k.	
4 Simplify $(8x^6y^9)^{\frac{2}{3}}$	
5 Write $0.8\dot{6}\dot{9}$ as a fraction in its simplest form.	

Day 9	S Tier 10-a-day

6 The cumulative frequency graph gives information about the masses of 80 apples picked from a tree.
(a) Find an estimate for the median and the interquartile range.
(b) Estimate how many of the 80 had a mass greater than 55.



7 $f(x) = 4x + 4$ and $g(x) = x^2 - 3$
Solve $fg(x) = gf(x)$

8 A bag contains some counters. 4 of them are green and the rest are white.
Two counters are taken at random without replacement.
The probability that both are green is $\frac{1}{6}$.
Work out how many counters are white.

9 ABCD is a rectangle with AB = 4 cm and AD = 5 cm.
A point P inside the rectangle is such that AP ≤ 4 cm and P is nearer to A than to B.
Work out the area of the region in which P can lie. Give your answer in terms of π and surds.

10 The volume of a cube is 137 cm^3, correct to the nearest cm^3.
Work out the upper bound of the edge length of the cube.
Give your answer correct to 3 significant figures. (Calculator)