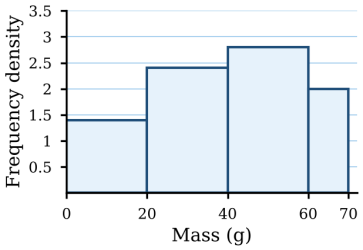
Day 242	A Tier 10-a-day
1 Here are the first four terms of a geometric sequence. 3, 9, 27, 81 (a) Write down the next two terms. (b) Work out the 8th term.	
2 (a) Write 0.0075 in standard form. (b) Write 5.07×10^3 as an ordinary number.	
3 P is the point $(0, -6)$ and Q is the point $(6, 2)$. (a) Find the midpoint of PQ.	
4 (a) Between which two consecutive whole numbers does $\sqrt{43}$ lie? (b) Work out $\sqrt{36} \times \sqrt[3]{27}$	
5 A straight ramp is 6 m long. (Calculator) It rises through a vertical height of 0.8 m. Work out the angle the ramp makes with the horizontal. Give your answer to 1 decimal place.	

Day 242 **A Tier 10-a-day**

6 y is inversely proportional to x^2.
When x = 8, y = 11.
(a) Find a formula for y in terms of x.
(b) Work out the value of y when x = 5.

7 A rectangle has width x cm and length (x + 7) cm.
The area of the rectangle is 30 cm^2.
(a) Show that $x^2 + 7x - 30 = 0$
(b) Work out the value of x.

8 The histogram shows information about the mass of some items.
(a) Work out the number of items with a mass in the class 20 to 40 g.
(b) Work out an estimate for the number with a mass greater than 50 g.



9 A bag contains 5 mint sweets and 3 toffee sweets.
Three sweets are taken at random without replacement.
Work out the probability that exactly one of the three sweets is toffee.

10 In a school, 60% of the students are boys. (Calculator)
40% of the boys and 60% of the girls walk to school.
What percentage of all the students walk to school?