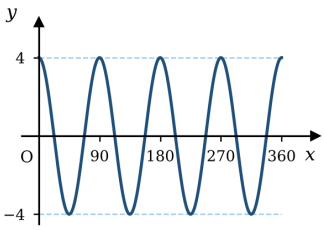
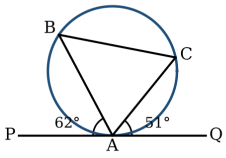
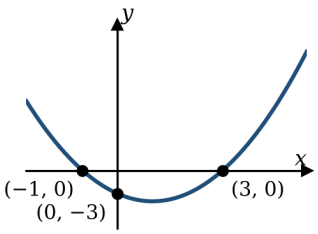
Day 61	S Tier 10-a-day
1 The mean of 5 numbers is 52. One number is removed and the mean of the remaining 4 numbers is 55.5. Work out the number that was removed.	
2 Hana read $\frac{2}{7}$ of a book on Saturday. On Sunday she read $\frac{7}{8}$ of the pages that were left. She read 105 pages on Sunday. How many pages are in the book?	
3 The diagram shows the graph of y = a cos bx, where a and b are positive integers. (a) Write down the value of a and the value of b. (b) Work out the value of y when x = 150°. 	
4 The curve $y = x^2 - 2x - 3$ crosses the x-axis at the points A and B. (a) Find the coordinates of A and B. (b) Find the coordinates of the minimum point of the curve.	
5 A metal crate in the shape of a cuboid weighs 180 N. Its smallest face has area 300 cm^2. Its largest face has area 1,000 cm^2. Pressure = force ÷ area Work out (a) the greatest pressure and (b) the least pressure the metal crate can exert on the ground, in N/m^2.	

Day 61	S Tier 10-a-day

6 PAQ is a tangent to the circle at A. B and C are points on the circle. Angle PAB = 62° and angle CAQ = 51°.
(a) Work out the size of angle ABC.
(b) Work out the size of angle ACB.
The diagram is not drawn accurately.



7 The diagram shows a sketch of a quadratic curve. It crosses the axes at the points shown.
Find an equation of the curve.
Give your answer in the form $y = ax^2 + bx + c$.



8 The price of a tablet is increased by 30%.
Later the new price is reduced by 10% in a sale.
The sale price is £468.
Work out the price before the increase.
(Calculator)

9 A circle has equation $x^2 + y^2 = 289$.
The point P(15, 8) lies on the circle.
(a) Find the equation of the tangent to the circle at P. Give your answer in the form ax + by = c, where a, b and c are integers.
(b) The tangent meets the x-axis at the point T.
Write down the coordinates of T.

10 Find the smallest positive integer k such that 980 × k is a square number.