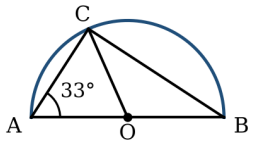
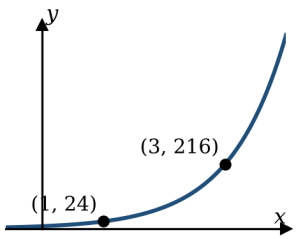
Day 86	S Tier 10-a-day
1 AB is a diameter of a circle, centre O. C is a point on the circle. Angle BAC = 33°. (a) Work out the size of angle ACB. (b) Work out the size of angle COB. The diagram is not drawn accurately. 	
2 Here are six numbers. $(\sqrt{6}+2)(\sqrt{6}-2)$, $\sqrt{49}$, $\sqrt{8}\times\sqrt{2}$, $(1+\sqrt{2})^2$, $\sqrt{3}\times\sqrt{5}$, $\frac{\sqrt{20}}{\sqrt{5}}$ Write down the rational numbers.	
3 (a) Solve $-2-2x>6$ (b) n is an integer. Write down all the values of n that satisfy $-14<3n+1\leq 7$	
4 Amir invests £2,000. The account pays compound interest of 4% a year for the first 2 years, then 3% a year for the next 3 years. Work out the total amount after 5 years, to the nearest penny. (Calculator)	
5 A fair 4-sided dice and a fair 6-sided dice are each thrown once. The first score and the second score are recorded. (a) Work out the probability that the two numbers are different. (b) Given that at least one number is 3, work out the probability that the two numbers are different.	

Day 86	S Tier 10-a-day

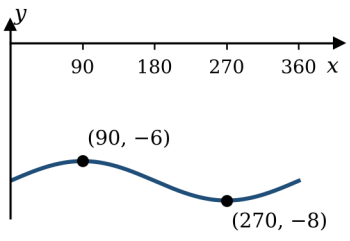
6 Solve $4 \tan x + 5 = 0$ for $0° \leq x \leq 360°$.
(Calculator)
Give your answers correct to 1 decimal place.

7 The diagram shows the graph of $y = ka^x$, where k and a are constants and $a > 0$.
The curve passes through the points (1, 24) and (3, 216).
Find the value of k and the value of a.



8 Beth and Kira share some money in the ratio 2 : 7.
Beth gives Kira £3.
The ratio of their money is now 1 : 5.
How much money do they have altogether?

9 The diagram shows the graph of $y = a \sin x° + c$ for $0 \leq x \leq 360$.
Some points on the graph are labelled.
Find the value of a and the value of c.



10 A bag contains some sweets. 9 of them are red and the rest are yellow.
Two sweets are taken at random without replacement.
The probability that both are red is $\frac{36}{91}$.
Work out how many sweets are yellow.