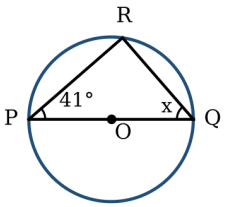
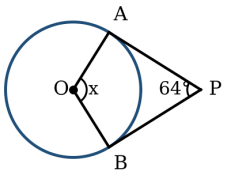
Day 267	A Tier 10-a-day
1 (a) Write 0.000011 in standard form. (b) Write 1.25×10^6 as an ordinary number.	
2 Work out the value of $2x^2 + 2x + 6$ when $x = -4$	
3 PQ is a diameter of the circle. Angle QPR = 41°. Work out the size of angle x. Give a reason for each step of your working. 	
4 (a) Simplify $\sqrt{27}$ (b) Simplify $\sqrt{27} + \sqrt{75}$	
5 A school has 225 students in Year 9, 200 in Year 10 and 325 in Year 11. A stratified sample of 30 students is to be taken. Work out how many students should be chosen from Year 10.	

Day 267 **A Tier 10-a-day**

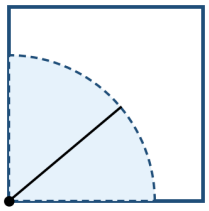
6 PA and PB are tangents to a circle with centre O.
Angle APB = 64°.
Work out the size of angle x (angle AOB).
Give a reason for each step of your working.



7 1 sandwich and 2 drinks cost £20.
3 sandwiches and 3 drinks cost £39.
Work out the cost of one drink.

8 A bag contains 7 mint sweets and 2 toffee sweets.
Three sweets are taken at random without replacement.
Work out the probability that exactly one of the three sweets is toffee.

9 A goat is tied by a rope of length 12 m to the corner of a square field of side 16 m.
The goat can graze inside the field only.
Work out the area it can graze. Give your answer in terms of π.
The diagram is not drawn accurately.



10 A rectangle has width x cm and length (x + 1) cm.
The area of the rectangle is 20 cm^2.
(a) Show that $x^2 + 1x - 20 = 0$
(b) Work out the value of x.