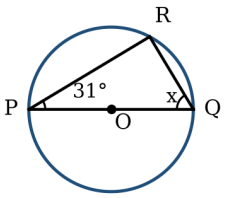
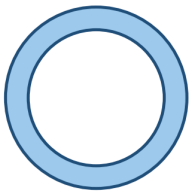
Day 295	A Tier 10-a-day
1 (a) Write down all the prime numbers between 20 and 40. (b) Write 95 as the product of two prime numbers.	
2 AB is a diameter of the circle. Angle BAC = 31°. Work out the size of angle x. Give a reason for each step of your working. 	
3 The population of a village changes from 400 to 384. Work out the percentage decrease.	
4 Expand and simplify $(x + 2)(x + 1)(x + 3)$	
5 Chloe reads $\frac{4}{9}$ of a book and has now read 40 pages. How many pages does the whole book have?	

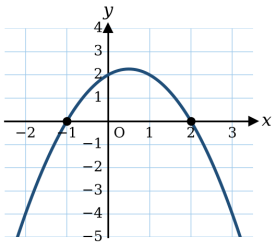
Day 295 **A Tier 10-a-day**

6 The mean mark of 10 adults in a test is 65.
The mean mark of 10 children in the same test is 46.
Work out the mean mark of all 20 people.

7 The diagram shows the cross-section of a metal pipe.
The outer radius is 8 cm and the inner radius is 6 cm.
The pipe is 20 cm long.
Work out the volume of metal used. Give your answer in terms of π.



8 The diagram shows the graph of $y = -x^2 + bx + c$.
Find the value of b and the value of c.



9 Rationalise the denominator of $\frac{4}{3+\sqrt{5}}$

Give your answer in the form $a + b\sqrt{c}$ where a and b are integers.

10 A solid is made from a cylinder and a cone.
The cylinder has radius 6 cm and height 6 cm.
The cone has the same radius as the cylinder and perpendicular height 6 cm.
Work out the total volume. Give your answer in terms of π.