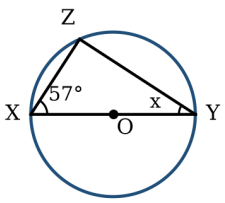
Day 79	A Tier 10-a-day
1 Work out the value of $2a^2 - 2ab - 3b^2$ when $a = -4$ and $b = 4$	
2 Change 2000 cm^2 to m^2.	
3 XY is a diameter of the circle. Angle YXZ = 57°. Work out the size of angle x. Give a reason for each step of your working. 	
4 7 painters take 15 days to paint a hall. All the painters work at the same rate. How many painters are needed to paint a hall in 7 days?	
5 A solid hemisphere has radius 9 cm. Work out its volume. Give your answer in terms of π.	

Day 79	A Tier 10-a-day
6 $A = 2 \times 3^4 \times 5^4$ $B = 2 \times 3 \times 5^3$ Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B. Give your answers as products of prime factors.	
7 PQR is a right-angled triangle with the right angle at Q. PR = 10 cm and angle QPR = 60°. Work out the exact length of QR. Do not use a calculator.	
8 y is inversely proportional to x. When x = 10, y = 4. (a) Find a formula for y in terms of x. (b) Work out the positive value of x when y = 40.	
9 Make x the subject of $y = \frac{4x + 3}{x + 5}$	
10 There are 200 passengers on a plane. 40% of the passengers are children. 40% of the children are under 5 years old. How many passengers are children under 5?	