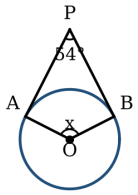
Day 344	A Tier 10-a-day
1 The scale of a map is 1 : 200000. A road is 4 km long. Work out the length of the road on the map, in centimetres.	
2 A point S moves so that it is always 7 cm from a fixed point X. Describe the locus of S.	
3 A pair of trainers costs £234 including VAT at 20%. (Calculator) Work out the price of the pair of trainers before VAT is added.	
4 Here are the times, in seconds, taken by 11 runners. 40 60 46 12 35 75 37 62 31 27 24 (a) Work out the median. (b) Work out the interquartile range.	
5 Factorise $2x^2 + 13x + 6$	

Day 344	A Tier 10-a-day
6 PA and PB are tangents to a circle with centre O. Angle APB = 54°. Work out the size of angle x (angle AOB). Give a reason for each step of your working. 	
7 A bag contains 7 red counters and 3 blue counters. Three counters are taken at random without replacement. Work out the probability that exactly one of the three counters is blue.	
8 A is the point (4, 3) and B is the point (2, 5). Find the equation of the perpendicular bisector of AB.	
9 Make x the subject of $y = \frac{3x + 6}{-x + 4}$	
10 There are 160 passengers on a plane. 25% of the passengers are children. 25% of the children are under 5 years old. How many passengers are children under 5?	