Day 156	B Tier 10-a-day
1 Write the ratio 16 : 24 in its simplest form.	
2 I think of a number. I multiply it by 6 and then subtract 10. The answer is 62. Work out my number.	
3 Write each number as an ordinary number. (a) 3.7×10^{6} (b) 7.6×10^{-5}	
4 On a map, 1 cm represents 10 km. Two towns are 2.5 cm apart on the map. (a) Work out the real distance between the towns. (b) Write the scale of the map in the form 1 : n.	
5 The angles of a triangle are x°, 3x° and (3x + 40)°. Work out the size of the largest angle.	

Day 156	B Tier 10-a-day
6 City E has a population of 7,500. Its area is 50 km^2. Work out the population density. Give your answer in people per km^2.	
7 A lighthouse is 29 m tall. (Calculator) Mia stands 46 m from the base of the lighthouse on level ground. Work out the angle of elevation of the top of the lighthouse from Mia. Give your answer correct to 1 decimal place.	
8 Two lights flash at 07:00. One light flashes every 30 minutes. The other light flashes every 25 minutes. At what time do both lights next flash together?	
9 Here is an iteration formula. $x_{n+1} = \sqrt{3x_n + 1}$ $x_0 = 1$ (a) Work out x_1 (b) Work out x_2. Give your answer correct to 3 decimal places. (Calculator)	
10 A boat sails 8 km on a bearing of 090° from P to Q, then 15 km on a bearing of 180° to R. (Calculator) (a) Work out the distance PR. (b) Work out the bearing of R from P. Give your answers correct to 1 decimal place. 	