Day 7	B Tier 10-a-day
1 Two buses leave a bus station at 11:00. One bus leaves every 14 minutes. The other bus leaves every 20 minutes. At what time do both buses next leave together?	
2 Simplify fully (a) $(2y^3)^3$ (b) $2p^2 \times 4p^4$	
3 PQRS is an isosceles trapezium with PQ parallel to SR. Angle SPQ = 66°. (a) Write down the size of angle PQR. (b) Work out the size of angle PSR.	
4 A piece of wood has a density of 0.6 g/cm^3 and a volume of 200 cm^3. Work out its mass.	
5 Work out $(6 \times 10^6) \div (4 \times 10^5)$ Give your answer in standard form.	

Day 7	B Tier 10-a-day
6 The mean of 5 numbers is 10. Four of the numbers are 6, 14, 9, 11. Work out the fifth number.	
7 There are 6.6×10^3 cells in a sample. The number triples every day. How many are there after 4 days? Give your answer in standard form.	
8 Triangle ABC has sides 7 mm, 8 mm and 14 mm. Triangle XYZ has sides 14 mm, 7 mm and 8 mm. Are the two triangles congruent? Give a reason for your answer.	
9 Ali says, "The value of $n^2 - 3n + 9$ is a prime number for every positive whole number n." Show that Ali is wrong.	
10 Show that $(n + 10)^2 - (n - 10)^2$ is a multiple of 40 for any whole number n.	