Day 206	A Tier 10-a-day
1 (a) Work out $\sqrt{10000}$ (b) Work out $\sqrt[3]{125000}$	
2 A car travels at 54 km/h. Work out this speed in metres per second.	
3 A straight line has equation $-4x + 2y = 20$ (a) Find the gradient of the line. (b) Find the coordinates of the point where the line crosses the x-axis.	
4 Bus A leaves a bus station every 12 minutes. Bus B leaves the same station every 16 minutes. Both buses leave together at 10:10 am. At what time will they next leave together?	
5 Triangle UVW: angle V = 90°, UW = 17 cm, UV = 15 cm. Triangle JKL: angle L = 90°, JK = 17 cm, JL = 15 cm. Are the two triangles congruent? Give a reason for your answer.	

Day 206	A Tier 10-a-day
6 Femi invests £7,500 in an investment bond. (Calculator) The account pays compound interest at 3% per year. Work out the value of the investment after 4 years.	
7 The mean of the five numbers 22, 23, 23, 22, x is 19. Work out the value of x.	
8 Simplify fully $\frac{x^2 - 64}{x^2 - 8x}$	
9 Jug A contains 7 litres of a mixture of orange juice and lemonade in the ratio 3 : 4. Jug B contains 6 litres of a mixture of orange juice and lemonade in the ratio 1 : 5. The contents of both jugs are mixed together. Work out the ratio of orange juice to lemonade in the mixture. Give your answer in its simplest form.	
10 Ship A sails 8 km from a port on a bearing of 090°. Ship B sails 19 km from the same port on a bearing of 345°. (Calculator) Work out the distance between the two ships. Give your answer to 3 significant figures.	