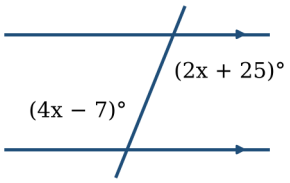
Day 334	A Tier 10-a-day
1 A mechanic charges £35 plus £60 for each hour of work. (a) Write a formula for the total cost, £C, after t hours. (b) Chloe pays £575 in total. Work out the number of hours.	
2 (a) Write 20 and 25 as products of prime factors. (b) Find the highest common factor (HCF) and the lowest common multiple (LCM) of 20 and 25.	
3 The diagram shows two parallel lines crossed by a straight line. (a) Work out the value of x. (b) Work out the size of the angle marked (2x + 25)°. The diagram is not drawn accurately. 	
4 Solve $\frac{x+8}{3} + \frac{x-1}{6} = 3$	
5 A scientist wants to estimate the number of frogs in a pond. She catches 20 frogs, marks each one and returns them. Later she catches a second sample of 100 frogs. 10 of these are marked. Work out an estimate for the total number of frogs in a pond.	

Day 334	A Tier 10-a-day
6 (a) Show that $0.\dot{1}\dot{0} = \frac{10}{99}$ (b) Hence write $1.\dot{1}\dot{0}$ as a mixed number in its simplest form.	
7 A train travels for 30 minutes at 60 km/h, then for 1 hour 30 minutes at 50 km/h. Work out the average speed for the whole journey.	
8 Triangle PQR has vertices P(5, 2), Q(−1, 5), R(4, −1). The triangle is enlarged with scale factor 4 and centre (3, 2). Write down the coordinates of the vertices of the image.	
9 Make x the subject of $y = \frac{5x + 5}{x + 5}$	
10 A, B, C and D are points on a circle. AC and BD meet at E. Angle BAC = 61° and angle ACD = 48°. Work out the size of angle x (angle AEB). Give reasons for your working. 