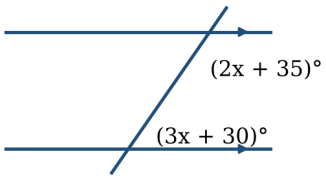
Day 292	A Tier 10-a-day
1 (a) Factorise $36x^2 - 1$ (b) Use the same idea to work out $26^2 - 24^2$ without a calculator.	
2 The exchange rate is £1 = PLN 5.20. (Calculator) A hotel room costs PLN 1,508 a night. Work out the cost in pounds.	
3 The diagram shows two parallel lines crossed by a straight line. (a) Work out the value of x. (b) Work out the size of the angle marked (2x + 35)°. The diagram is not drawn accurately. 	
4 f(x) = 3x − 1 $g(x) = x^2 - 4$ Find fg(6)	
5 A colony has 4,000 and grows by 6% per day. (Calculator) Work out the number of bacteria after 6 days. Give your answer to the nearest whole number.	

Day 292	A Tier 10-a-day
6 p : q = 8 : 5 q : r = 1 : 4 (a) Work out the ratio p : q : r (b) p, q and r add up to 297. Work out the value of r.	
7 A sector of a circle has radius 15 cm and an arc length of 10π cm. Work out the angle at the centre of the sector.	
8 Write $0.54\dot{3}$ as a fraction in its simplest form.	
9 Here are the first five terms of a quadratic sequence. 7, 11, 17, 25, 35 (a) Find an expression for the nth term. (b) Work out the 8th term.	
10 Jack invests £2500 in a savings account. (Calculator) The account pays compound interest at a fixed rate each year. After 2 years there is £3025 in the account. Work out the annual rate of interest.	