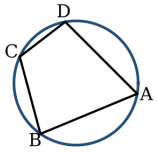
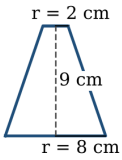
Day 27	S Tier 10-a-day
1 Zip Taxis has a fixed charge of £6.50 plus £4.50 per mile. Go Cabs has a fixed charge of £51.50 plus £1.50 per mile. (a) Work out the number of miles for which the two costs are the same. (b) Which is cheaper for 21 miles, and by how much?	
2 A 5% increase followed by a 15% increase is equivalent to a single percentage change. Work out the single percentage change that has the same effect.	
3 The mean of 6 numbers is 84.5. One number is removed and the mean of the remaining 5 numbers is 91.4. Work out the number that was removed.	
4 A, B, C and D are points on a circle. Angle DAB = (4x)°, angle BCD = (2x + 6)° and angle ABC = (3x + 30)°. (a) Work out the value of x. (b) Work out the size of angle ADC. The diagram is not drawn accurately. 	
5 Expand and simplify $(x + 3)^2(x - 1)$	

Day 27	S Tier 10-a-day
6 Write $30^4 \times 12^2$ as a product of powers of prime numbers.	
7 Container A holds juice and water in the ratio 6 : 5. Container B holds juice and water in the ratio 3 : 6. 22 litres from container A and 18 litres from container B are mixed. Work out the ratio of juice to water in the mixture.	
8 A cone is cut parallel to its base to make a smaller cone and a frustum. The frustum has height 9 cm, top radius 2 cm and base radius 8 cm. Work out the volume of the frustum. Give your answer in terms of π. 	
9 Make t the subject of $T = \frac{7t + 5}{t - 6}$	
10 A shop buys a games console and adds a 30% mark-up to get the selling price. In a sale the selling price is reduced by 10% to £304.20. Work out how much the shop paid for a games console.	