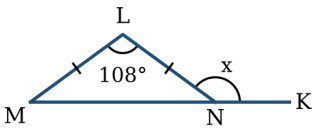
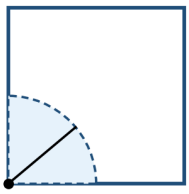
Day 105	A Tier 10-a-day
1 ABC is an isosceles triangle with AB = AC. BCD is a straight line. Angle BAC = 108°. Work out the size of angle x. The diagram is not drawn accurately.  	
2 The probability that Ravi wins a game is 0.9. The probability that Omar wins a game is 0.9. The two events are independent. Work out the probability that at least one of them will win a game.	
3 $A = 2^4 \times 5$ $B = 2^4 \times 3 \times 5^4$ Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B. Give your answers as products of prime factors.	
4 A sofa costs £500 plus VAT at 20%. In a sale, the price including VAT is reduced by 10%. Work out the sale price of the sofa.	
5 No tax is paid on the first £12,000 of income. Tax of 20% is paid on the next £35,000. Tax of 40% is paid on all income above £47,000. (Calculator) Mo earns £69,500 a year. Work out the income tax paid.	

Day 105	A Tier 10-a-day
6 Expand and simplify $4(x - 2)(x + 6) - (x + 6)(x - 6)$	
7 A goat is tied by a rope of length 4 m to the corner of a square field of side 8 m. The goat can graze inside the field only. Work out the area it can graze. Give your answer in terms of π. The diagram is not drawn accurately. 	
8 A is the point (0, 1) and B is the point (2, 9). Find the equation of the perpendicular bisector of AB.	
9 The length and width of a rectangular poster are 16.4 cm and 9.4 cm. Each measurement is correct to 1 decimal place. Work out the lower bound for the perimeter.	
10 A new car is worth £8000. (Calculator) Its value falls by 15% each year. Work out its value after 2 years.	