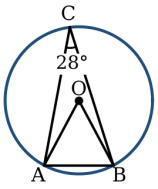
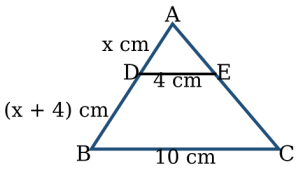
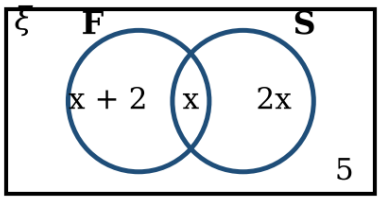
Day 90	S Tier 10-a-day
1 The probability that a bus is more than 5 minutes late on any morning is $\frac{3}{20}$. Events on different occasions are independent. Work out the smallest number of mornings needed so that the probability of this happening at least once is greater than 0.5. (Calculator)	
2 The length of a rope is 2850 m, correct to the nearest 50. Write down the error interval for the length of a rope, using l.	
3 (a) Solve $-2x > -2$ (b) n is an integer. Write down all the values of n that satisfy $-9 < 4n - 1 \leq 7$	
4 A, B and C are points on a circle, centre O. Angle ACB = 28°. (a) Work out the size of angle AOB. (b) Work out the size of angle OAB. The diagram is not drawn accurately. 	
5 The point P(−4, 2) lies on the graph of y = f(x). Write down the coordinates of the image of P on the graph of (a) y = 2f(x) (b) y = f(x − 2)	

Day 90	S Tier 10-a-day
6 In the diagram, DE is parallel to BC. AD = x cm, DB = (x + 4) cm, DE = 4 cm and BC = 10 cm. (a) Find the value of x. (b) Work out the length of AB. The diagram is not drawn accurately. 	
7 Find the smallest positive integer k such that 12 × k is a cube number.	
8 The Venn diagram shows how many of 39 students study French (F) or Spanish (S). (a) Work out the value of x. (b) A student is chosen at random from those who study Spanish. Work out the probability that this student also studies French. 	
9 Show that $2^{m+2} + 2^m$ is always a multiple of 5.	
10 x is an obtuse angle and $\sin x = \frac{7}{9}$. (a) Find the exact value of cos x. (b) Find the exact value of tan x. Give each answer as a fraction or a surd. Do not use a calculator.	