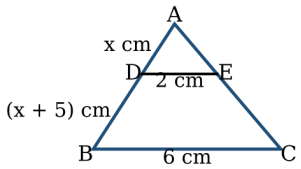
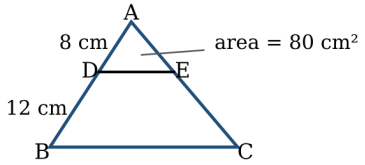
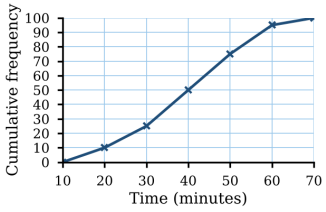
Day 281	S Tier 10-a-day
1 A bag contains balloons. $\frac{1}{4}$ of the balloons are pink and $\frac{2}{5}$ of the balloons are silver. The rest of the balloons, 21 of them, are gold. How many silver balloons are there?	
2 In the diagram, DE is parallel to BC. AD = x cm, DB = (x + 5) cm, DE = 2 cm and BC = 6 cm. (a) Find the value of x. (b) Work out the length of AB. The diagram is not drawn accurately. 	
3 The population of a village increased by 10% in 2023. In 2024 the population increased by a further 5%. Work out the overall percentage increase over the two years.	
4 24 painters can paint a hall in 10 days. After 3 days, 3 of the painters leave. The rest carry on working at the same rate. How many more days does it take to finish?	
5 In the diagram, DE is parallel to BC. AD = 8 cm, DB = 12 cm and the area of triangle ADE is 80 cm^2. Work out the area of the trapezium DBCE. The diagram is not drawn accurately. 	

Day 281	S Tier 10-a-day
6 The cumulative frequency graph gives information about the times of 100 students to complete a puzzle. (a) Find an estimate for the median and the interquartile range. (b) Estimate how many of the 100 had a time greater than 55.  	
7 The equation $kx^2 + 8x + 2 = 0$ has equal roots. Find the value of k.	
8 A factory makes 10,000 parts. 1% of them are faulty. A scanner flags 80% of faulty parts and wrongly flags 2% of parts that are not faulty. A part is chosen at random from the parts flagged by the scanner. Work out the probability that this part is faulty.	
9 The area of a circle is 220 cm^2, correct to the nearest cm^2. Work out the lower bound of the radius of the circle. Give your answer correct to 3 significant figures. (Calculator)	
10 Solve the simultaneous equations $x^2 + y^2 = 52$ $y = x - 2$	