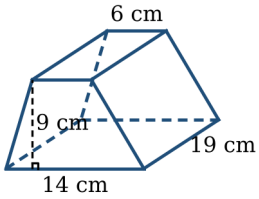
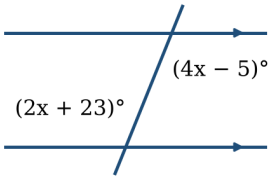
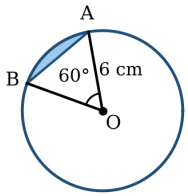
Day 310	A Tier 10-a-day
1 The diagram shows a prism. The cross-section of the prism is a trapezium. Work out the volume of the prism. The diagram is not drawn accurately.  	
2 (a) Write 27 and 30 as products of prime factors. (b) Find the highest common factor (HCF) and the lowest common multiple (LCM) of 27 and 30.	
3 Solve $2x + 9 < -x + 6$	
4 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 $(4x - 5)°$. The diagram is not drawn accurately.  	
5 A tank is in the shape of a cuboid measuring 40 cm by 100 cm by 120 cm. It already contains 20 litres of water. Water flows in at 8 litres per minute until the tank is full. Work out how long this takes. Give your answer in minutes.	

Day 310	A Tier 10-a-day
6 Show that $\frac{\sqrt{125}-\sqrt{45}}{\sqrt{5}}$ is an integer, and find its value.	
7 Expand and simplify $(x + 1)(x - 3)(x + 3)$	
8 Ravi invests £2000 in a savings account. (Calculator) The account pays compound interest at a fixed rate each year. After 2 years there is £2247.20 in the account. Work out the annual rate of interest.	
9 The diagram shows a circle with centre O and radius 6 cm. Angle AOB = 60°. (Calculator) Work out the area of the shaded segment. Give your answer to 3 significant figures. 	
10 A cyclist makes a journey. The distance-time graph shows the journey. (a) For how many minutes did the cyclist stop? (b) Work out the speed during the first part of the journey. Give your answer in km/h. 