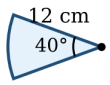
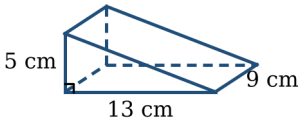
Day 40	A Tier 10-a-day
1 (a) Between which two consecutive whole numbers does $\sqrt[3]{82}$ lie? (b) Work out $6^3 - 7^2$	
2 y is directly proportional to the cube of x. When x = 2, y = 24. (a) Find a formula for y in terms of x. (b) Work out the value of y when x = 6.	
3 The ratio of cats to dogs in an animal shelter is 4 : 5. There are 4 more dogs than cats. Work out the number of cats.	
4 The diagram shows a sector of a circle of radius 12 cm. Work out the area of the sector. Give your answer in terms of π. The diagram is not drawn accurately. 	
5 3 sandwiches and 4 drinks cost £16. 5 sandwiches and 4 drinks cost £24. Work out the cost of one drink.	

Day 40	A Tier 10-a-day
6 The diagram shows a prism. The cross-section of the prism is a right-angled triangle. Work out the volume of the prism. The diagram is not drawn accurately.  	
7 Solve $\frac{3}{(x+4)} + \frac{2}{(x-2)} = 1$	
8 A bag contains red counters and blue counters in the ratio 2 : 7. 18 more blue counters are added to the bag. The ratio of red counters to blue counters is now 1 : 8. How many counters were in the bag at the start?	
9 There are 200 passengers on a plane. 35% of the passengers are children. 40% of the children are under 5 years old. How many passengers are children under 5?	
10 A bag contains 6 red counters and 3 blue counters. Three counters are taken at random without replacement. Work out the probability that at least one of the three counters is blue.	