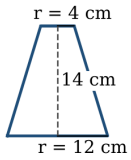
Day 3	S Tier 10-a-day
1 A flight leaves London at 15:50 (London time). It takes 12 hours 15 minutes. When it is 12:00 in London it is 04:00 in Los Angeles. At what time, in Los Angeles time, does the flight land? Say if it is on a different day.	
2 10 painters can paint a hall in 8 days. After 6 days, 5 of the painters leave. The rest carry on working at the same rate. How many more days does it take to finish?	
3 (a) Solve $10 - 5x > 10$ (b) n is an integer. Write down all the values of n that satisfy $-7 < 3n + 2 < 8$	
4 Here are six numbers. $\sqrt{2} \times \sqrt{6}$, $\frac{1}{\sqrt{3}}$, $\sqrt[3]{27}$, $\frac{\sqrt{18}}{\sqrt{2}}$, $\frac{\sqrt{20}}{\sqrt{5}}$, $(\sqrt{3})^2$ Write down the rational numbers.	
5 A and B are points on the curve $y = x^3 - 4x$. The x coordinate of A is -3 and the x coordinate of B is -2. Work out the gradient of the line AB.	

Day 3	S Tier 10-a-day

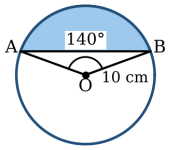
6 A cone is cut parallel to its base to make a smaller cone and a frustum.
The frustum has height 14 cm, top radius 4 cm and base radius 12 cm.
Work out the volume of the frustum. Give your answer in terms of π.



7 The probability that a bus is more than 5 minutes late on any morning is $\frac{1}{4}$.
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 0.75. (Calculator)

8 Solve $125^{x+2} = 5^{2x+2}$

9 The circle has centre O and radius 10 cm. A and B are points on the circle and angle AOB = 140°. (Calculator)
Work out the area of the shaded segment. Give your answer correct to 3 significant figures.
The diagram is not drawn accurately.



10 In a population of 2,000 people, 10% have a certain disease.
A test gives a positive result for 90% of people who have the disease and for 2% of people who do not.
A person is chosen at random and tests positive.
Work out the probability that they have the disease.