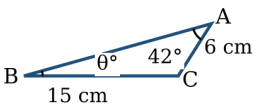
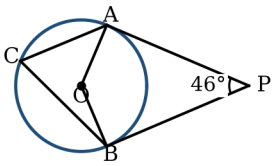
Day 326	S Tier 10-a-day
1 A flight leaves London at 06:35 (London time). It takes 12 hours 35 minutes. When it is 12:00 in London it is 19:00 in Singapore. At what time, in Singapore time, does the flight land? Say if it is on a different day.	
2 The diagram shows triangle ABC. (Calculator) Angle BAC = 42° and angle ABC is acute. Work out the size of angle ABC, marked θ. Give your answer correct to 1 decimal place. The diagram is not drawn accurately. 	
3 Rationalise the denominator of $\frac{16}{4\sqrt{5}}$ Give your answer in its simplest form.	
4 A stone block in the shape of a cuboid weighs 330 N. Its smallest face has area 100 cm^2. Its largest face has area 2,500 cm^2. Pressure = force ÷ area Work out (a) the greatest pressure and (b) the least pressure the stone block can exert on the ground, in N/m^2.	
5 Solve $x^{\frac{3}{4}} = 8$	

Day 326	S Tier 10-a-day

6 PA and PB are tangents to a circle, centre O. C is a point on the circle. Angle APB = 46°.
(a) Work out the size of angle AOB.
(b) Work out the size of angle ACB.
The diagram is not drawn accurately.



7 Make u the subject of $v = \frac{2u + 7}{u - 5}$

8 A is the point (−5, 8) and B is the point (1, 4).
Find an equation of the perpendicular bisector of AB.
Give your answer in the form ax + by = c, where a, b and c are integers.

9 Amir and Nadia play a match. The first to win 2 table tennis games wins the match.
The probability that Amir wins any one of the table tennis games is $\frac{3}{4}$.
Work out the probability that the match needs a third one to decide it.

10 A solid is made from a cone of height 8 cm and a hemisphere. Both have radius 9 cm.
Work out the total volume of the solid. Give your answer in terms of π.

