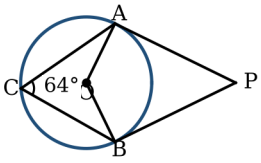
Day 85	IGCSE 10-a-day
1 A flight leaves London at 15:15 (London time). It takes 8 hours 20 minutes. When it is 12:00 in London it is 19:00 in Singapore. At what time, in Singapore time, does the flight land? Say if it is on a different day.	
2 $y = \frac{6x^4 + 7x^2 + 6x}{x}$ Find $\frac{dy}{dx}$.	
3 A bag contains 4 green and 6 yellow beads. Two beads are taken at random without replacement. Work out the probability that both are green.	
4 PA and PB are tangents to a circle, centre O. C is a point on the circle. Angle ACB = 64°. (a) Work out the size of angle AOB. (b) Work out the size of angle APB. The diagram is not drawn accurately. 	
5 Solve $x^{-\frac{2}{3}} = \frac{1}{4}$	

Day 85	IGCSE 10-a-day
6 y is directly proportional to the square root of x. When x = 9, y = 6. When x = 36, y = a. When x = b, y = 16. Work out the values of a and b.	
7 A particle moves in a straight line. After t seconds its displacement from a fixed point is s metres, where $s = 2t^3 - 18t^2 + 59t - 5$ (a) Show that the particle is never at rest. (b) Find the least speed of the particle and the time it occurs.	
8 Make t the subject of $T(t + 3) = t - T$	
9 $3x = 5y$ Work out the ratio $(4x - 5y) : (3x + 6y)$ Give your answer in its simplest form.	
10 A particle moves in a straight line. Its displacement from O after t seconds is s metres, where $s = -t^2 - 2t + 7$ (a) Work out the average velocity of the particle between t = 3 and t = 9. (b) Find the time at which the velocity equals this average velocity.	