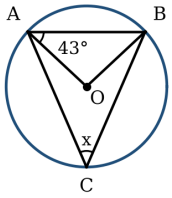
Day 41	A Tier 10-a-day

1 A, B and C are points on a circle with centre O.
Angle OAB = 43°.
(a) Work out angle AOB.
(b) Work out the size of angle x.
Give reasons for your answers.

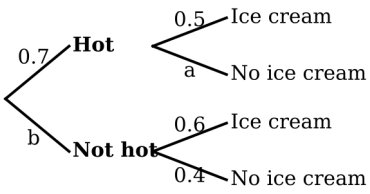


2 Write 297 as a product of its prime factors. Give your answer in index form.

3 A fish tank is a cuboid measuring 1.5 m by 1.2 m by 0.6 m.
Work out the capacity of the tank in litres.
(1 m^3 = 1000 litres)

4 (a) Solve $6 < 5x - 4 < 36$
(b) Write down all the integer values of x that satisfy this inequality.

5 The tree diagram shows probabilities for two events.
(a) Work out the values of a and b.
(b) Work out the probability that Leah buys an ice cream.



Day 41	A Tier 10-a-day
6 The value of an investment grows by 2% each year. (Calculator) After 2 years it is worth £36,414. Work out its value at the start.	
7 Factorise fully $8x^2 - 200$	
8 Two fair dice are thrown. The two scores are subtracted (smaller from larger). Work out the probability that the difference is 4.	
9 The point P(−6, 8) lies on a circle with centre O(0, 0). (a) Work out the equation of the circle, in the form $x^2 + y^2 = r^2$. (b) Find the equation of the tangent to the circle at P.	
10 Ella invests £19,000 in a savings account. (Calculator) Compound interest is paid at a fixed rate each year. After 3 years the investment is worth £25,289. Work out the annual rate of interest.	