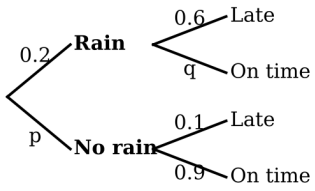
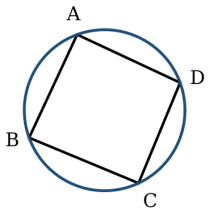
Day 117	A Tier 10-a-day
1 A rectangle has length (2x + 4) cm and width (x + 5) cm. The perimeter of the rectangle is 84 cm. (a) Work out the value of x. (b) Work out the length of the rectangle.	
2 A shop sells flour in 2 different sizes. Small bag: 500 g for £2.05 Large bag: 1000 g for £3.40 Which bag is the best value for money? You must show your working.	
3 Expand and simplify $(3x - 3)(x - 7)$	
4 The tree diagram shows probabilities for two events. (a) Work out the values of p and q. (b) Work out the probability of rain and late. 	
5 One bacterium has a mass of 3×10^{-6} g. A sample contains 8×10^{8} bacteria. Work out the total mass of the sample. Give your answer in standard form.	

Day 117 **A Tier 10-a-day**

6 p : q = 8 : 1
q : r = 3 : 4
(a) Work out the ratio p : q : r
(b) p, q and r add up to 186. Work out the value of r.

7 Simplify fully
(a) $\frac{10x^7y^3}{4x^2y^6}$
(b) $(2x^3y^4)^4$

8 A, B, C and D are points on a circle.
Angle B = (4x − 10)° and angle D = (x + 25)°.
(a) Work out the value of x.
(b) Work out the size of angle B.
The diagram is not drawn accurately.



9 (a) Write down all the prime numbers between 20 and 34.
(b) Write 91 as the product of two prime numbers.

10 Work out the size of angle x. (Calculator)
Give your answer to 1 decimal place.
The diagram is not drawn accurately.

