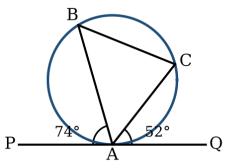
Day 335 **S Tier 10-a-day**

1 Solve $\frac{x+4}{5} - \frac{x-6}{3} = 2$

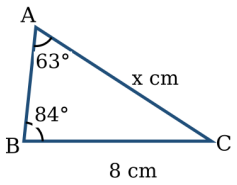
2 PAQ is a tangent to the circle at A. B and C are points on the circle. Angle PAB = 74° and angle CAQ = 52°.
(a) Work out the size of angle ABC.
(b) Work out the size of angle ACB.
The diagram is not drawn accurately.



3 Expand and simplify $(x + 1)(x + 6)(x - 3)$

4 A is directly proportional to r.
When r = 6, A = 48.
(a) Find a formula for A in terms of r.
(b) Work out the value of A when r = 1.

5 Work out $\left(\frac{121}{4}\right)^{-\frac{3}{2}}$

Day 335	S Tier 10-a-day
6 The diagram shows triangle ABC. (Calculator) Work out the length of AC. Give your answer correct to 1 decimal place. The diagram is not drawn accurately. 	
7 The value of a house is increased by 40% in one year. The next year its value is decreased by 40%. It is now worth £252,000. Work out the value of the house before the first change.	
8 An alloy contains 284 g of zinc and 89 g of copper. The density of zinc is 7.1 g/cm^3. The density of copper is 8.9 g/cm^3. Work out the density of the alloy.	
9 ABCD is a rectangle with AB = 8 cm and AD = 9 cm. A point P inside the rectangle is such that AP ≤ 8 cm and P is nearer to A than to B. Work out the area of the region in which P can lie. Give your answer in terms of π and surds.	
10 In a population of 2,000 people, 5% have a certain disease. A test gives a positive result for 80% of people who have the disease and for 10% of people who do not. A person is chosen at random and tests positive. Work out the probability that they have the disease.	