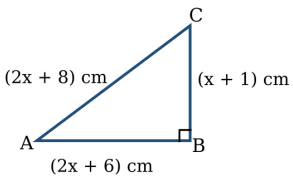
Day 334	S Tier 10-a-day
1 Rationalise the denominator of $\frac{20}{3\sqrt{2}}$ Give your answer in its simplest form.	
2 Triangle P has vertices A(4, 1), B(2, 4) and C(6, 3). Triangle Q has vertices A'(−8, −11), B'(−2, −20) and C'(−14, −17). Q is an enlargement of P. Describe fully the single transformation that maps P onto Q.	
3 A is the point (8, 5) and B is the point (18, 1). Find an equation of the perpendicular bisector of AB. Give your answer in the form y = mx + c.	
4 Carlos changes £400 into dollars at £1 = $1.2. Carlos spends $270 and then changes the rest back into pounds at £1 = $1.4. How many pounds does Carlos get back?	
5 A bag contains sweets. $\frac{1}{4}$ of the sweets are orange and $\frac{1}{3}$ of the sweets are lemon. The rest of the sweets, 40 of them, are strawberry. How many lemon sweets are there?	

Day 334	S Tier 10-a-day

6 A spinner numbered 1 to 4 and a spinner numbered 1 to 5 are each thrown once. The first score and the second score are recorded.
(a) Work out the probability that the product is even.
(b) Given that at least one number is 3, work out the probability that the product is even.

7 ABC is a right-angled triangle with sides (2x + 6) cm, (x + 1) cm and (2x + 8) cm. The longest side is (2x + 8) cm.
(a) Find the value of x.
(b) Work out the area of the triangle.
The diagram is not drawn accurately.



8 Simplify fully $\frac{x^2 - 64}{x^2 - 2x} \div \frac{x^2 - 13x + 40}{x}$

9 The graph of y = f(x) has a maximum point at (−1, 1).
Write down the coordinates of the turning point of the graph of
(a) y = f(x − 2)
(b) y = 3f(x + 2)

10 Show that the line y = x − 12 is a tangent to the circle $x^2 + y^2 = 72$.
Find the coordinates of the point where the line touches the circle.