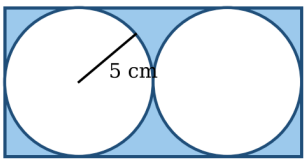
Day 55	A Tier 10-a-day
1 (a) Write 0.0089 in standard form. (b) Write 3.4×10^4 as an ordinary number.	
2 A piece of plastic has a volume of 40 cm^3. The density of the material is 7.8 g/cm^3. Work out the mass of the piece of plastic.	
3 Work out $4.4 \times (1 + 2.6 \div 100)^3$ (Calculator) Give your answer correct to 3 significant figures.	
4 2 identical circles of radius 5 cm fit exactly inside a rectangle. The circles touch each other and the sides of the rectangle. (Calculator) Work out the area of the shaded region. Give your answer to 3 significant figures. 	
5 The three angles of a triangle are x°, 4x + 16° and 2x − 46°. Work out the value of x.	

Day 55	A Tier 10-a-day
6 A cyclist travels for 3 hours at 25 km/h, then for 2 hours 30 minutes at 80 km/h. Work out the average speed for the whole journey.	
7 Ship A sails 25 km from a port on a bearing of 075°. Ship B sails 10 km from the same port on a bearing of 340°. (Calculator) Work out the distance between the two ships. Give your answer to 3 significant figures.	
8 The point P(5, −12) 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.	
9 The price of a train ticket increases by 15%. The new price is £575. Work out the price before the increase.	
10 Solve $\frac{6}{(x + 4)} + \frac{2}{(x - 4)} = 1$	