Day 213	A Tier 10-a-day
1 Expand and simplify $(x + 4)^2$	
2 A circular table top has radius 14 cm. Work out, in terms of π, (a) the circumference, (b) the area.	
3 (a) Change 8 cm^2 to mm^2. (b) Change 8 litres to cm^3.	
4 A regular decagon and a regular pentagon share the side AB and are on opposite sides of it. The two shapes meet at the point A. Work out the size of the angle at A that is not inside either shape.	
5 Leah invests £2000 in a savings account. (Calculator) The account pays 4% compound interest per year. Work out the interest earned in 4 years.	

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6 A solid is made from a cylinder of radius 9 cm and a hemisphere on top, with the same radius. The total volume of the solid is 810π cm^3. Work out the height of the cylinder.	
7 Work out $(4.8 \times 10^{-1}) + (9.1 \times 10^{-3})$ Give your answer in standard form.	
8 (a) Show that the equation $x^3 + 5x - 14 = 0$ can be rearranged to give $x = \sqrt[3]{14 - 5x}$ (b) Show that the equation has a solution between x = 1 and x = 2	
9 Rationalise the denominator of $\frac{3}{2 - \sqrt{3}}$ Give your answer in the form $a + b\sqrt{c}$ where a and b are integers.	
10 Cara invests £8000 in a savings account. (Calculator) The account pays compound interest at a fixed rate each year. After 2 years there is £8652.80 in the account. Work out the annual rate of interest.	