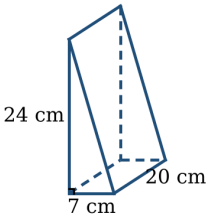
Day 212	A Tier 10-a-day
1 Simplify fully (a) $\frac{18x^4y^3}{5xy^6}$ (b) $\frac{(5x^2)^2}{3x^3}$	
2 The scale of a map is 1 : 200000. A road is 2 km long. Work out the length of the road on the map, in centimetres.	
3 Jack sells a phone for £308 and makes a profit of 10%. Work out how much Jack paid for the phone.	
4 A cuboid has length 5 cm and width 2 cm. Its total surface area is 146 cm^2. Work out the height of the cuboid.	
5 No tax is paid on the first £11,000 of income. Tax of 20% is paid on the next £28,000. Tax of 40% is paid on all income above £39,000. (Calculator) Sara earns £50,500 a year. Work out the income tax paid.	

Day 212	A Tier 10-a-day
6 The diagram shows a triangular prism. The cross-section is a right-angled triangle. Work out the total surface area of the prism. The diagram is not drawn accurately.  	
7 A club has 50 members in junior, 90 in intermediate and 100 in senior. A stratified sample of 24 members is to be taken. Work out how many members should be chosen from intermediate.	
8 A regular hexagon and a regular pentagon share the side PQ and are on opposite sides of it. The two shapes meet at the point P. Work out the size of the angle at P that is not inside either shape.	
9 The graph of y = f(x) has a maximum point at (5, 3). Write down the coordinates of the turning point of the graph of (a) y = 3f(x) (b) y = f(−x)	
10 Write $0.9\dot{7}$ as a fraction in its simplest form.	