Day 214 **B Tier 10-a-day**

1 Write down the number of faces and vertices of a pentagonal prism.

2 Work out
(a) 85% of £140
(b) 25% of 640

3 Simplify fully
(a) $(y^2)^4$
(b) $(4a^2)^3$

4 A block of ice is a cuboid measuring 12 cm by 3 cm by 2 cm.
The density of ice is 0.9 g/cm^3.
Work out the mass of the block.

5 The table shows some information about 42 people at a meeting.
A person is chosen at random.
Find the probability that the person chose "Coffee".

	Tea	Coffee	Total
Male	13		28
Female		10	
Total			42

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6 Factorise $9x^2 - 64$	
7 The bearing of Q from P is 175°. Work out the bearing of P from Q.	
8 In a test, the mean mark of 9 Year 10 is 50. The mean mark of 6 Year 11 is 80. Work out the mean mark of all 15 students.	
9 A storage tank is $\frac{1}{2}$ full. 12 litres of oil are added. The storage tank is now $\frac{3}{5}$ full. Work out the capacity of the storage tank.	
10 A coach travels at 30 km/h for 1.5 hours and then at 90 km/h for 1 hour. Work out its average speed for the whole journey.	