Day 360	S Tier 10-a-day
1 Write these numbers in order of size, starting with the smallest. 79%, $\frac{17}{20}$, 42%, 38%	
2 The interior angles of a pentagon are x°, (2x + 15)°, (2x − 20)°, (x + 30)°, (x + 25)° (a) Work out the value of x. (b) Work out the size of the largest angle.	
3 Make l the subject of $T = 7l^2 - 11$ where l is positive.	
4 Tin A holds red paint and white paint in the ratio 3 : 1. Tin B holds red paint and white paint in the ratio 5 : 1. 12 litres from tin A is mixed with some of tin B. The ratio of red paint to white paint in the mixture is 19 : 5. Work out how many litres were taken from tin B.	
5 A is 10% more than B. B is 15% more than R. Work out A as a percentage of R.	

Day 360 **S Tier 10-a-day**

6 A right-angled triangle has hypotenuse 16.6 cm and one other side 7.6 cm, both correct to 1 decimal place. (Calculator)
Work out the upper bound of the length of the third side. Give your answer correct to 3 significant figures.

7 A retailer buys a games console and adds a 30% mark-up to get the selling price.
In a sale the selling price is reduced by 20% to £72.80.
Work out how much the shop paid for a games console.

8 The line $y = -x + k$ is a tangent to the curve $y = x^2 + 5x$.
Find the value of k.

9 The table gives information about the ages of some people.
Work out an estimate for the mean age.
Give your answer correct to 1 decimal place. (Calculator)

Age, a (years)	Frequency density
$0 < a \leq 10$	0.7
$10 < a \leq 30$	0.2
$30 < a \leq 60$	0.7
$60 < a \leq 100$	0.9

10 OAB is a triangle. OA = **a** and OB = **b**.
M is on OA with OM : MA = 1 : 2. N is on OB with ON : NB = 3 : 2. AN and BM intersect at X.
(a) Find BM in terms of **a** and **b**.
(b) Find OX in terms of **a** and **b**.
The diagram is not drawn accurately.

