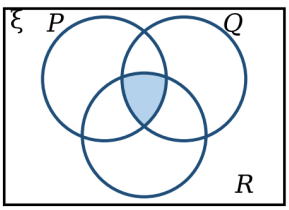
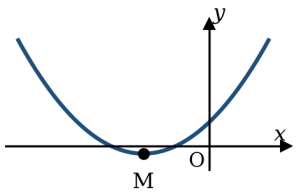
Day 190	IGCSE 10-a-day
1 A flight leaves London at 06:40 (London time). It takes 9 hours 45 minutes. When it is 12:00 in London it is 19:00 in Singapore. At what time, in Singapore time, does the flight land? Say if it is on a different day.	
2 Describe fully the single transformation that maps the graph of y = f(x) onto the graph of (a) y = 3f(x) (b) y = −f(x)	
3 A curve has equation $y = -x^2 + 4x - 5$. Find the equation of the tangent to the curve at the point where x = −3.	
4 Write down the set notation for the region shaded in the Venn diagram. 	
5 A curve has equation y = (x + 3)(x − 3)(x + 3). Find the equation of the tangent to the curve at the point where x = 2.	

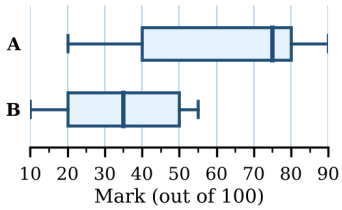
Day 190 **IGCSE 10-a-day**

6 The value of a car is decreased by 40%.
The new amount is then decreased by 15%.
Work out the overall percentage change.

7 The diagram shows a sketch of the curve $y = ax^2 + bx + 6$.
The curve has a turning point at M(−2, −2).
Find the values of a and b.



8 The box plots show the test marks of the students in two classes, A and B.
(a) Work out the interquartile range for each.
(b) Compare the distributions of A and B.



9 The line L has equation $3x - 4y = -24$.
L crosses the x-axis at the point A and the y-axis at the point B.
(a) Find the coordinates of A and B.
(b) Work out the length of AB.

10 A circle has equation $x^2 + y^2 = 169$.
The point P(−12, −5) lies on the circle.
(a) Find the equation of the tangent to the circle at P. Give your answer in the form $ax + by = c$, where a, b and c are integers.
(b) The tangent meets the x-axis at the point T.
Write down the coordinates of T.