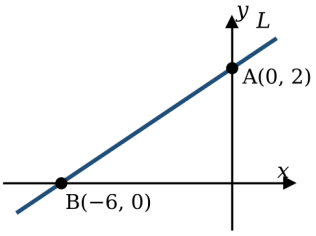
Day 101	S Tier 10-a-day
1 The interior angles of a hexagon are $x°$, $(x + 40)°$, $(x + 35)°$, $(x + 20)°$, $(x + 30)°$, $(x + 25)°$ (a) Work out the value of x. (b) Work out the size of the largest angle.	
2 Work out the value of $xyz - x^2$ when $x = -5$, $y = 1$ and $z = -2$.	
3 Maya changes £400 into euros at £1 = €1.25. Maya spends €310 and then changes the rest back into pounds at £1 = €1.6. How many pounds does Maya get back?	
4 Simplify fully $\frac{4x^2 - 36}{x^2 - 10x + 21}$	
5 In a bag, the ratio of the number of red counters to the number of blue counters is 2 : 7. Then 17 red counters are removed and 17 blue counters are removed. The ratio is now 1 : 12. How many blue counters were there at the start?	

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6 The diagram shows the straight line L, which passes through the points A and B.
The line M is perpendicular to L and passes through B.
Find the equation of M in the form y = mx + c.



7 A rectangle has length 12 cm and width 5 cm.
Both measurements are correct to the nearest centimetre.
Amir says that the area of the rectangle could be exactly 73 cm^2.
Is Amir correct? You must show your working.

8 A solid metal sphere of radius 3 cm is melted down and recast into a solid cylinder of radius 2 cm.
Work out the height of the cylinder.
The volume of a sphere of radius r is $\frac{4}{3}\pi r^3$.

9 P is directly proportional to v and inversely proportional to t.
When v = 4 and t = 1, P = 24.
Work out the value of P when v = 2 and t = 2.

10 The area of a circle is 305 cm^2, correct to the nearest cm^2.
Work out the upper bound of the radius of the circle.
Give your answer correct to 3 significant figures. (Calculator)