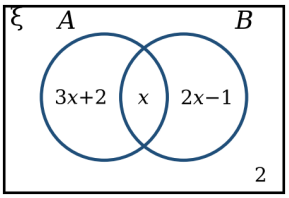
Day 150	IGCSE 10-a-day
1 A curve has equation $y = 3x^2 - 2x - 4$. Find the equation of the normal to the curve at the point where $x = 1$.	
2 Solve $2 \sin x = -\sqrt{3}$ for $0° \leq x \leq 360°$. Do not use a calculator.	
3 $y = (x - 1)(x + 2)$ Find $\frac{dy}{dx}$.	
4 $f(x) = \frac{4x - 5}{2}$. (a) Find $f^{-1}(x)$. (b) Find $f^{-1}(1)$.	
5 The mean of 7 numbers is 44. A new number is added and the mean of all 8 numbers is 42.5. Work out the new number.	

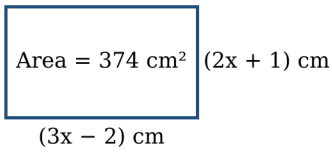
Day 150 **IGCSE 10-a-day**

6 The Venn diagram shows information about 27 families.
A: have a garden B: have a car
(a) Find the value of x.
(b) Find n(A) and n(B ∩ A′).



7 A curve has equation y = (x + 1)(x − 3)(x + 2).
Find the equation of the tangent to the curve at the point where x = −2.

8 The diagram shows a rectangle of length (3x − 2) cm, width (2x + 1) cm and area 374 cm^2.
(a) Show that $6x^2 - x - 376 = 0$.
(b) Work out the perimeter of the rectangle.



9 $N = 2 \times 3 \times 7^4$
How many factors does N have?
Include 1 and N.

10 y is directly proportional to the cube of x.
When x = 5, y = 1250.
(a) Find a formula for y in terms of x.
(b) Find the value of x when y = 80.