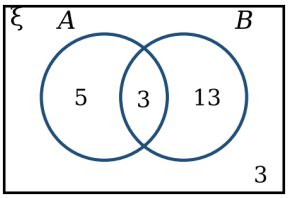
Day 359 **IGCSE 10-a-day**

1 Differentiate $-5x^2 - 2x - \frac{1}{x}$ with respect to x.

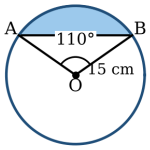
2 Solve $\frac{x-5}{8} + \frac{x+4}{2} = 2$

3 The Venn diagram shows information about 24 families.
A: have a garden B: have a car
(a) Find n(A′).
(b) Find n(A ∩ B′).



4 $y = 3x^4 - 3x^3 + 2x^2 + 3$
The curve crosses the y-axis at the point A.
Work out the coordinates of A and the gradient of the curve at A.

5 The circle has centre O and radius 15 cm. A and B are points on the circle and angle AOB = 110°. (Calculator)
Work out the area of the shaded segment. Give your answer correct to 3 significant figures.
The diagram is not drawn accurately.

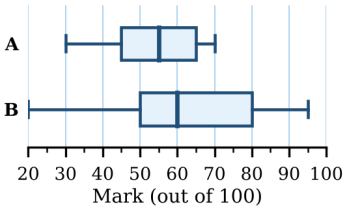


Day 359 **IGCSE 10-a-day**

6 The value of a car is decreased by 15%.
The new amount is then decreased by 20%.
Work out the overall percentage change.

7 $y = x(x - 2)(x - 2)$
Work out the gradient of the curve at the point where $x = -1$.

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

10 x and y satisfy these inequalities:
$x \geq 4$, $y \geq 3$, $3x + 4y \leq 36$
Find the greatest possible value of $4x + 4y$.