Day 284	IGCSE 10-a-day
1 Work out the value of $m^2 - 3nk$ when m = 3, n = 1 and k = −3.	
2 Differentiate $-2x^5 + 6x^4 - 7x$ with respect to x.	
3 (a) Solve $8 - 2x < 8$ (b) n is an integer. Write down all the values of n that satisfy $-3 \leq 2n + 5 \leq 3$	
4 Given that x > 0, solve $x^{\frac{2}{3}} = 4$	
5 A curve has equation $y = -2x^2 - \frac{4}{x}$. Find the equation of the tangent to the curve at the point where x = 4.	

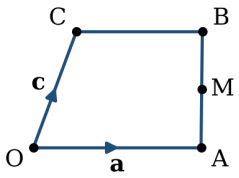
Day 284 **IGCSE 10-a-day**

6 OABC is a trapezium. OA is parallel to CB and CB = $\frac{3}{4}$OA.

OA = **a** and **OC** = **c**.

(a) Find **AB** in terms of **a** and **c**.

(b) AM : MB = 1 : 1. Find **OM**.



7 $y = x^3 - 3x + 6$

(a) Show that there is a stationary point at x = 1.

(b) By finding the gradient when x = $\frac{1}{2}$ and when x = $\frac{3}{2}$, decide whether it is a maximum or a minimum.

8 The point P(−1, 6) is rotated 180° about the origin.

The image is then reflected in the y-axis.

(a) Write down the coordinates of the final image of P.

(b) Describe fully the single transformation that is equivalent to these two transformations.

9 Work out $9.8 \times 10^0 - 1.9 \times 10^{-1}$.

Give your answer in standard form.

10 5x = 3y

Work out the ratio (4x − 1y) : (3x + 3y)

Give your answer in its simplest form.