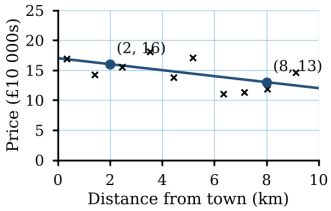
Day 126 **IGCSE 10-a-day**

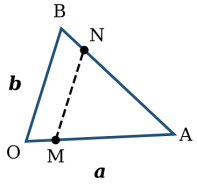
1 The interior angles of a pentagon are
$x°$, $(2x)°$, $(x + 30)°$, $(2x + 25)°$, $(2x - 35)°$
(a) Work out the value of x.
(b) Work out the size of the largest angle.

2 Work out $(1.5 \times 10^{-4})^2$.
Give your answer in standard form.

3 The scatter graph shows distance from town (x) and price (y).
The equation of the line of best fit is $y = -0.5x + 17$.
(a) Estimate y when x = 5.
(b) Explain why an estimate of y when x = 25 may be unreliable.



4 OAB is a triangle. OA = **a** and OB = **b**.
M is on OA with OM : MA = 1 : 4. N is on AB with AN : NB = 4 : 1.
(a) Find ON in terms of **a** and **b**.
(b) Show that MN is parallel to OB.
The diagram is not drawn accurately.

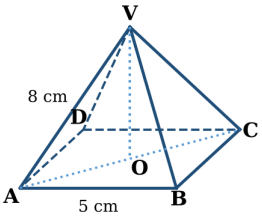


5 $y = x(x - 2)(x + 2)$
Work out the gradient of the curve at the point where x = 2.

Day 126 **IGCSE 10-a-day**

6 V is inversely proportional to the square root of r.
When r = 16, V = 3.
(a) Find a formula for V in terms of r.
(b) Find the value of V when r = 36.

7 VABCD is a pyramid. The base ABCD is a square with sides of 5 cm.
The vertex V is vertically above the centre O of the base. VA = 8 cm.
(a) Work out the vertical height VO.
(b) Work out the angle between VA and the base. (Calculator)



8 A curve has equation $y = 2x^4 - 36x^2$.
Find the coordinates of the stationary points of the curve and determine the nature of each.

9 Write $\frac{2+\sqrt{7}}{4-\sqrt{7}}$ in the form $p + q\sqrt{7}$
where p and q are rational numbers.

10 The normal to the curve $y = -x^2 - 4x + 1$ at the point P where $x = -1$ meets the curve again at Q.
Find the coordinates of Q.