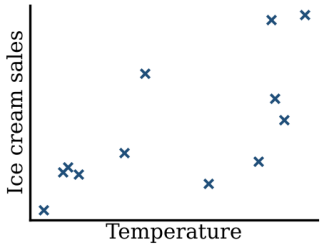
Day 198 **A Level Maths: C Tier 10-a-day**

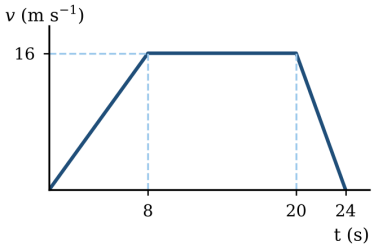
1 Write down the exact value of tan 330°.

2 The scatter diagram shows temperature and ice cream sales for a group.
Describe the correlation.



3 $\mathbf{a} = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$ and $\mathbf{b} = \begin{pmatrix} 1 \\ \frac{1}{2} \end{pmatrix}$.
Show that a and b are parallel and find the ratio |b| : |a|.

4 The graph shows the velocity of a car over 24 seconds as it moves in a straight line.
(a) Find its acceleration in the first 8 s.
(b) Find the total distance travelled.



5 Solve $|x - 5| = |x + 1|$.

Day 198	A Level Maths: C Tier 10-a-day
6 X ~ B(n, p) has mean 3 and variance 2.25. Find n and p.	
7 Find the remainder when $2x^3 - 4x^2 - 6x + 6$ is divided by $(x + 3)$.	
8 Solve $-2\sin^2 x + 2\cos x + 2 = 0$ for $0° \leq x \leq 360°$.	
9 $f(x) = 2x^3 - 4x^2 - 10x + 12$ (a) Show that $(x - 1)$ is a factor of f(x). (b) Factorise f(x) completely.	
10 Two forces $(-5\mathbf{i} + 7\mathbf{j})$ N and $(9\mathbf{i} + \mathbf{j})$ N act on a particle of mass 4 kg. No other horizontal forces act. Find the acceleration of the particle as a vector in terms of **i** and **j**.	