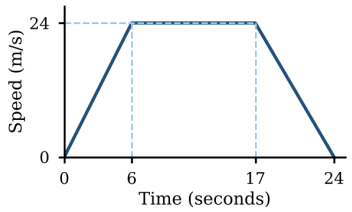
Day 272	S Tier 10-a-day
1 The interior angles of a pentagon are $x°$, $(2x + 30)°$, $(2x + 40)°$, $(x + 15)°$, $(2x - 25)°$ (a) Work out the value of x. (b) Work out the size of the largest angle.	
2 Factorise $6x^2 - 35x + 49$	
3 In triangle PQR, side QR is extended to S. Angle QPR = $(5x + 15)°$ Angle PQR = $(2x + 10)°$ Angle PRS = $(5x + 45)°$ (a) Work out the value of x. (b) Work out the size of angle PRQ.	
4 The graph shows the speed of a car during 24 seconds. (a) Work out the acceleration during the first 6 seconds. (b) Work out the average speed over the whole 24 seconds. 	
5 C is 50% less than P. P is 60% less than A. Work out C as a percentage of A.	

Day 272 **S Tier 10-a-day**

6 Here are the first five terms of a quadratic sequence.
$-6, -1, 8, 21, 38$
Find an expression for the nth term.

7 OA = $\mathbf{a}$ and OB = $\mathbf{b}$.
OP = $5\mathbf{b}$, OQ = $-3\mathbf{a} + 2\mathbf{b}$ and OR = $-5\mathbf{a}$.
(a) Show that P, Q and R lie on a straight line.
(b) Work out the ratio PQ : QR in its simplest form.

8 Solve the simultaneous equations
$x^2 + y^2 = 5$
$x + y = 1$

9 The HCF of two numbers is 5 and their LCM is 30.
The smaller number is 10.
Work out the larger number.

10 The table shows the daily visitors over six periods.
The 3-point moving average centred on Thu is 23.
(a) Work out the value of x.
(b) Work out the 3-point moving average centred on Fri.

	Mon	Tue	Wed	Thu	Fri	Sat
Value	32	19	34	x	24	13