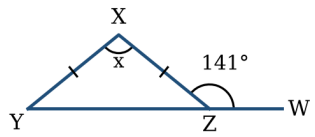
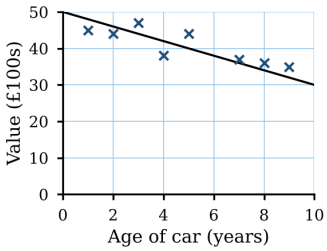
Day 170 **A Tier 10-a-day**

1 Expand and simplify
$(3x + 7)^2$

2 XYZ is an isosceles triangle with XY = XZ.
YZW is a straight line.
Angle XZW = 141°.
Work out the size of angle x.
The diagram is not drawn accurately.

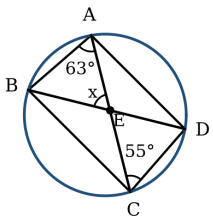


3 The scatter graph shows the ages and values of some cars.
A line of best fit is drawn.
(a) Describe the correlation.
(b) Estimate the value, in £100s, of a car that is 7 years old.



4 A cone has height 15 cm and base radius 5 cm.
Work out the volume of the cone. Give your answer in terms of π.

5 Solve $5x^2 + 4x - 8 = 0$
Give your solutions correct to 2 decimal places.
(Calculator)

Day 170	A Tier 10-a-day
6 Jack invests £800 in a savings account. (Calculator) The account pays 3% compound interest per year. Work out the amount in the account after 3 years.	
7 A sequence is generated by the rule $u_{n+1} = 3u_n - 5$ The first term, u_1, is 2. Work out the 5th term, u_5.	
8 (a) Work out 0.8×0.2 (b) Work out $2.4 \div 0.2$	
9 A, B, C and D are points on a circle. AC and BD meet at E. Angle BAC = 63° and angle ACD = 55°. Work out the size of angle x (angle AEB). Give reasons for your working. 	
10 A cyclist travels 550 metres in 16.7 seconds. The distance is correct to the nearest 10 metres and the time to the nearest 0.1 second. (a) Work out the upper bound and the lower bound of the speed in m/s. (b) Write the speed to a suitable degree of accuracy. Give a reason for your answer.	