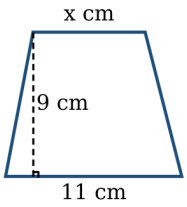
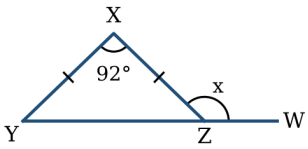
Day 300	A Tier 10-a-day

1 The area of this trapezium is 81 cm^2.
Work out the value of x.
The diagram is not drawn accurately.



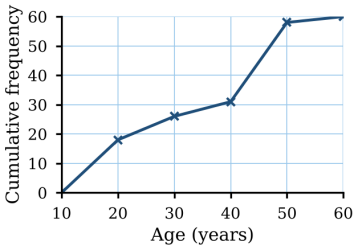
2 The number of visitors to a museum was 220 and is now 352.
Work out the percentage increase.

3 ABC is an isosceles triangle with AB = AC.
BCD is a straight line.
Angle BAC = 92°.
Work out the size of angle x.
The diagram is not drawn accurately.



4 f(x) = 3x − 3
$g(x) = x^2 - 9$
Find fg(5)

5 p : q = 2 : 5
q : r = 7 : 2
(a) Work out the ratio p : q : r
(b) p, q and r add up to 472. Work out the value of r.

Day 300	A Tier 10-a-day
6 Solve $5x^2 + 7x - 3 = 0$ Give your solutions correct to 2 decimal places. (Calculator)	
7 A triangle has sides of length 7 cm, 24 cm and 26 cm. Is the triangle right-angled? You must show your working.	
8 The cumulative frequency graph shows information about the age of 60 visitors. Use the graph to find an estimate for (a) the median, (b) the number of visitors with a age greater than 50 years.  	
9 Simplify fully $\frac{4x^2 + 21x - 18}{2x^2 + 13x + 6}$	
10 A cyclist travels 400 metres in 14.3 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.	