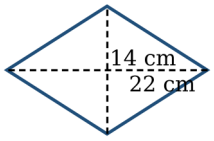
Day 146 **A Tier 10-a-day**

1 The frequency table shows data for 31 students.
(a) Find the median.
(b) Work out the range.

Shoe size	5	6	7	8	9
Frequency	7	9	1	8	6

2 The diagram shows a rhombus.
The diagonals are 22 cm and 14 cm and cross at right angles.
Work out the area of the rhombus.
The diagram is not drawn accurately.



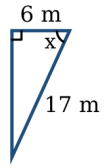
3 The exchange rate is £1 = PLN 5.20.
(Calculator)
Nadia changes £700 into Polish zloty and spends PLN 2,184.
Nadia changes the rest back into pounds at the same rate.
How much does Nadia get back?

4 9 painters take 4 days to paint a hall.
All the painters work at the same rate.
How long would it take 4 painters to paint a hall?

5 $f(x) = 2x + 6$
$g(x) = x^2 + 3$
(a) Find f(4)
(b) Find fg(x). Give your answer in its simplest form.

Day 146 **A Tier 10-a-day**

6 Work out the size of angle x. (Calculator)
Give your answer to 1 decimal place.
The diagram is not drawn accurately.



7 The curve C has equation $y = -x^2 + 4$
(a) Find the coordinates of the points where C crosses the x-axis.
(b) Find the coordinates of the turning point of C.

8 The table shows the masses, in kg, of 50 parcels.
(a) Write down the class that contains the median.
(b) Work out an estimate for the mean.

Mass, m (kg)	Frequency
$0 < m \leq 20$	16
$20 < m \leq 40$	13
$40 < m \leq 60$	2
$60 < m \leq 80$	19

9 n is the smallest positive integer such that 540 × n is a square number.
Find the value of n.

10 A solid is made from a cylinder of radius 3 cm and a hemisphere on top, with the same radius.
The total volume of the solid is 126π cm^3.
Work out the height of the cylinder.