**Day 341** **A Tier 10-a-day**

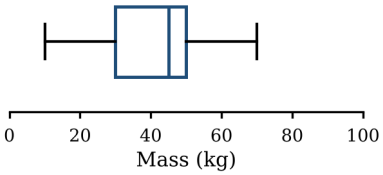
**1** A cylinder has radius 10 cm and volume $1100\pi$ $cm^3$.
Work out the height of the cylinder.

**2** Make a the subject of $b = \frac{a - 1}{5}$

**3** Here are the ages, in years, of 7 people.
77 18 27 29 11 53 36
(a) Work out the median.
(b) Work out the interquartile range.

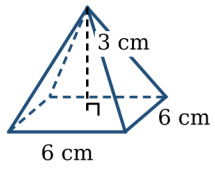
**4** $A = 2^2 \times 5^4 \times 7^3$
$B = 2 \times 5^4 \times 7$
Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B.
Give your answers as products of prime factors.

**5** The box plot shows the masses, in kg, of the parcels in delivery A.
(a) Write down the median and the interquartile range.
For delivery B the median is 40 and the interquartile range is 10.
(b) Compare the distributions of the two deliveries.



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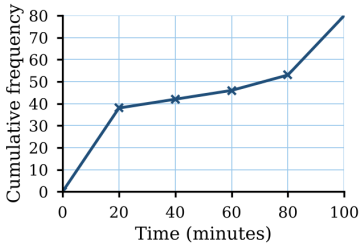
**6** The diagram shows a pyramid with a square base of side 6 cm.
The perpendicular height of the pyramid is 3 cm.
Work out the volume of the pyramid.
The diagram is not drawn accurately.




**7** (a) Show that $0.\dot{5}\dot{0} = \frac{50}{99}$

(b) Hence write $5.\dot{5}\dot{0}$ as a mixed number in its simplest form.

**8** The cumulative frequency graph shows the times taken by 80 people to finish a puzzle.
Use the graph to find an estimate for
(a) the median,
(b) the number of people with a time greater than 60 minutes.




**9** Make x the subject of $y = \frac{3x + 3}{-x - 6}$

**10** Oscar invests £17,500 in a savings account. (Calculator)
Compound interest is paid at a fixed rate each year.
After 3 years the investment is worth £30,240.
Work out the annual rate of interest.