1) A bus holds 36 seated passengers.

How many seated passengers fit onto 24 buses?
Each bus also has space for two passengers in wheelchairs and 14 passengers standing. How many passengers in total fit onto 24 buses?
2) The formula for finding the speed, $v$, of an object at different times is $v=20+4 t$ Find the speed when the time, $t$, is 6 seconds.
3) What is the perimeter, in cm, of this rectangle:


265 mm

1) $\quad 1$ is a square number $(1 \times 1)$ and a cube number $(1 \times 1 \times 1)$ What is the next number that is both a square number and a cube number?
2) Suket pays for two drinks with fifteen coins, all 10p, 20p or 50p. The drinks cost $£ 2.55$ each. How many of each coin did he hand over?
3) A football club plays 19 games at home in a season. The average attendance is 18,320 . By rounding numbers to one significant figure, estimate the total number of spectators who attend the home games of this club.

If the average cost of a ticket is $£ 32$, estimate the total cost of tickets for a season.

1) Clara thinks of a number. She multiplies by 12 , then subtracts 6 . Her result is 42 . What was her original number?
(Let her original number be $x$ )
2) Drew finds a brass bar weighing 40kg. Brass is made of $55 \%$ copper and the rest of zinc. How many kilograms of zinc does it contain?
3) What is the difference between $\sqrt[3]{125}$ and $5^{4}$ ?
4) Find an expression for the area of this shape:


If $x=4$, what can you say about the shape?
2) Cal reads a book that has 212 pages. Each page has 36 lines, and each line has an average of 11.4 words per line.

Estimate, by rounding numbers to one significant figure, how many words there are in the book.

If it takes him 6 hours and 40 minutes to read the book, roughly how many words does he read in a minute?
3) Andrei was given a sequence of numbers, with each number written on an individual piece of paper. He lost one number and mixed up the other numbers. The numbers he had left were $39,31,23$, and 27. Which number did he lose?

1) Oscar has 120 marbles. $\frac{1}{10}$ of them are red and $\frac{2}{5}$ are green. The rest are purple.
How many are red?

How many are purple?
2) Which is bigger $4^{2}+4^{3}$ or $3^{4}$ ? And by how much?
3) A medicine spoon holds 5ml. How many spoonfuls would be needed to fill up a litre bottle?

1) Zoe's average pulse rate is 65 beats per minute. How many times does it beat in a 24 hour day?
2) Jaspreet thinks of a number. She multiplies by 2 , then subtracts 3 and then multiplies that by 4 . Her result was 36 .
What was her original number? (let $x$ be her original number)
3) A water tank held 720 litres of water. A gardener used $\frac{1}{4}$ of it on Monday, $\frac{1}{3}$ of the remainder on Tuesday and on Wednesday she used $\frac{2}{3}$ of what was left. How much water was left in the tank?
4) Cailey's pet gerbil is $4 \frac{2}{5}$ inches long and India's pet giant snail is $\frac{40}{9}$ inches long.
Whose pet is longer? And by how much?
5) How many seconds are there in one day?
6) Tamsin has completed a triathlon. She swam for 750 m , cycled for 19.4 km and ran for 5000 m . What was the total distance, in km, of her triathlon?
7) Molly wants to estimate what $32 \%$ of $£ 486$ is.

She rounds the numbers to one significant figure.
What is her estimate?
2) Kelmer thinks of a number. He multiplies by 5, then subtracts 4 and then multiplies that by 2 . His result was 52 .
What was his original number? (let $x$ be his original number)
3) Are the following in a sequence?
$3^{4}, \quad 3^{2} \times 10, \quad 10^{2}-1^{4}, 2^{2} \times 3^{3}, \ldots$

1) Insert brackets to make each of these calculations correct.

$$
5 \times 3-1=10
$$

$$
3+6-2 \div 2=3.5
$$

2) What are the factors of the $6^{\text {th }}$ multiple of the $5^{\text {th }}$ prime number?
3) What is the expression for perimeter of the following shape?


1）What is one sixth of one fifth of one quarter of one third of one half of 120 ？

2）How many days are there in 12 years？

3）Work out the following：
$1 \frac{1}{2} \times \frac{2}{3}$
$2 \frac{2}{3} \times \frac{3}{4}$
$3 \frac{3}{4} \times \frac{4}{5}$

Following this pattern，can you get the answer 10？Or 49？

1) Amber, Ollie and Lexi are doing a sponsored walk. They set off together. Amber takes 6 minutes and Ollie takes 8 minutes to complete a lap.


Assuming they don't change their walking speeds, after how long will they first cross the start line together?

If it takes two hours before all three of them cross the line together, what is the shortest possible time that Lexi takes to walk a lap?
2) Daniel has some containers that hold water. He has five bottles that hold 330 ml each and he has also has four two-litre bottles.
How much water, in litres, does he have altogether?
3) Zaara says that the point $(5,24)$ lies on the line $y=5 x-1$

Is she correct?
Huxley says that the point ( 12,100 ) is above that line.
Is he correct?

1) Jasper thinks of a number. He multiplies by 2 , then he adds 4 and finally he multiplies that by 6 . His result was 72 .
What was his original number? (let $x$ be his original number)
2) Isabel's dog, Titus, eats $\frac{3}{4}$ of a tin of dog food a day. How many tins does he eat in 4 weeks?
If a tin costs $£ 1.30$, how much does it cost Isabel to feed him each week?
If there is a $15 \%$ reduction in the price of a tin, how much would she save?
3) Marco makes some fruit punch. He uses 750 ml of cranberry juice, 0.45 litres of pineapple juice, 320 ml of orange juice and 1.3 litres of lemonade.
How many litres of fruit punch does Marco make?

Marco pours the punch into glasses that can each hold 180 ml of liquid. How many whole glasses can he fill and how much does he have left over?

