

P5 Maths Cheat Sheet

Every formula and key fact for Primary 5, from the latest (2026) MOE syllabus

INSIDE

- Number & Algebra p. 1
- Measurement & Geometry p. 3
- Problem sums · On the paper p. 6

NUMBER & ALGEBRA

Whole Numbers and Four Operations Term 1

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
2	0	3	0	0	0	5

Numbers to 10 million

2 030 005: two million, thirty thousand and five

Order of operations

() → × ÷ → + -

Brackets first. Then × and ÷ from left to right, then + and -.

EXAMPLE

$$24 - 6 \times 3 = 24 - 18 = 6$$

$$(24 - 6) \times 3 = 18 \times 3 = 54$$

$$36 \div 4 \times 3 = 9 \times 3 = 27$$

× or ÷ by multiples of 10

× 300 → × 3, then × 100

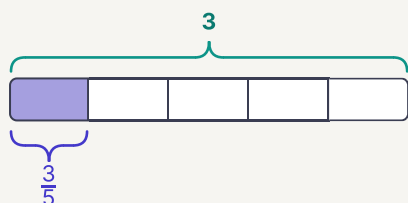
Split off the zeros: use the digit, then the 10, 100 or 1000.

EXAMPLE

$$23 \times 300 = 23 \times 3 \times 100 = 6900$$

$$5600 \div 70 = 560 \div 7 = 80$$

Fractions and Division Term 1

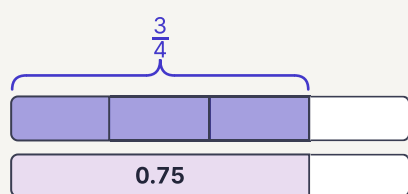


Division as a fraction

A whole number ÷ a whole number can be written as a fraction.

$$3 \div 5 = \frac{3}{5}$$

$$9 \div 4 = \frac{9}{4} = 2\frac{1}{4}$$

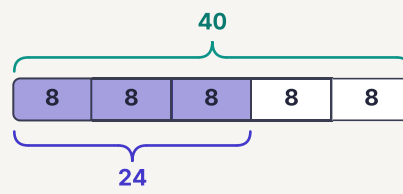


Fraction to decimal

Make the bottom 10, 100 or 1000, or divide.

$$\frac{3}{4} = \frac{75}{100} = 0.75$$

$$7 \div 8 = 0.875$$



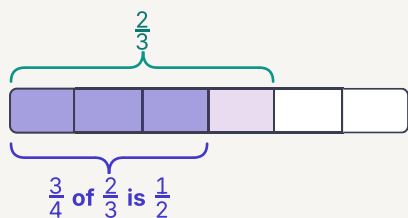
Fraction of a quantity

"Of" means ×. Or find 1 unit first.

$$\frac{3}{5} \times 40 = 24$$

$$1 \text{ unit} \rightarrow 40 \div 5 = 8$$

$$3 \text{ units} \rightarrow 3 \times 8 = 24$$



Fraction × fraction

Numerator × numerator, denominator × denominator, then simplify.

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

$$\frac{5}{4} \times \frac{6}{5} = \frac{30}{20} = 1\frac{1}{2}$$

$$2\frac{1}{3} + 1\frac{3}{4} = 3 + \frac{13}{12} = 4\frac{1}{12}$$

$$3\frac{3}{4} - 1\frac{1}{3} = 2 + \frac{5}{12} = 2\frac{5}{12}$$

Add or subtract mixed numbers

Wholes first, then the fractions over the same denominator.

$$2\frac{1}{4} \times 6 = \frac{9}{4} \times 6 = 13\frac{1}{2}$$

Mixed number × whole number

Make it an improper fraction first.



NUMBER & ALGEBRA

Decimals

Term 3 · revision

	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
2.375			2	.	3	7	5
$\times 100$	2	3	7	.	5		

$\times$ or $\div$ by 10, 100, 1000

 $\times$ moves every digit 1, 2 or 3 places left. $\div$ moves them right.

$$2.375 \times 100 = 237.5$$

$$46.2 \div 100 = 0.462$$

$$0.35 \times 60 = 0.35 \times 6 \times 10 = 21$$



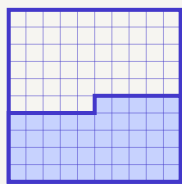
Changing units

To a bigger unit, $\div$. To a smaller unit, $\times$.

$$3.8 \text{ kg} \rightarrow 3.8 \times 1000 = 3800 \text{ g}$$

Percentage

Term 3

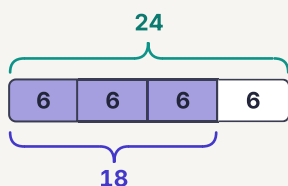


Percent means out of 100

To a percentage, $\times 100\%$.
Back to a decimal, $\div 100$.

$$45\% = \frac{45}{100} = 0.45$$

$$0.08 \times 100\% = 8\%$$



Part as a percentage

$$\frac{\text{part}}{\text{whole}} \times 100\%$$

EXAMPLE

18 out of 24

$$\rightarrow \frac{18}{24} \times 100\% = 75\%$$

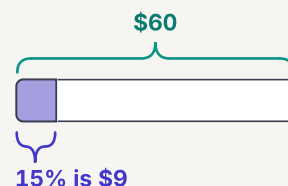


Fractions as percentages

$$\frac{1}{4} = 25\%$$

$$\frac{1}{5} = 20\%$$

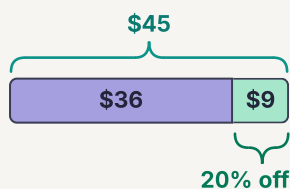
$$\frac{1}{8} = 12.5\%$$



Percentage of a quantity

15% of \$60

$$\rightarrow \frac{15}{100} \times 60 = \$9$$



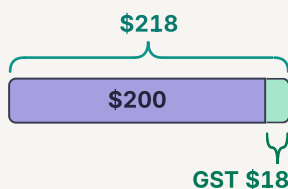
Discount

Price after discount = usual price - discount

20% off \$45

$$\rightarrow \frac{20}{100} \times 45 = \$9$$

$$\text{pay} \rightarrow 45 - 9 = \$36$$



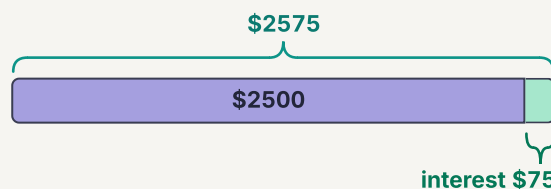
GST

Price with GST = price + GST. Use the rate the question gives.

9% GST on \$200

$$\rightarrow \frac{9}{100} \times 200 = \$18$$

$$\text{pay} \rightarrow 200 + 18 = \$218$$



Annual interest

A percentage of the money saved, paid each year.

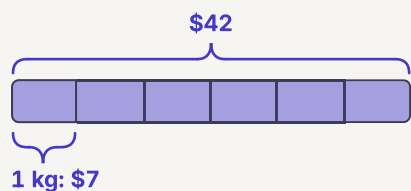
$$3\% \text{ a year on } \$2500 \rightarrow \frac{3}{100} \times 2500 = \$75$$

$$\text{after 1 year} \rightarrow 2500 + 75 = \$2575$$



NUMBER & ALGEBRA

Rate Term 3

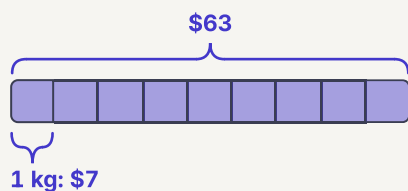


Rate

$$\text{total} \div \text{number of units}$$

The amount for 1 unit.

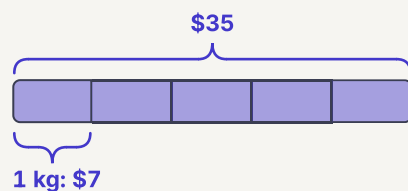
EXAMPLE

$$\$42 \text{ for } 6 \text{ kg} \rightarrow 42 \div 6 = \$7$$


Total amount

$$\text{rate} \times \text{number of units}$$

EXAMPLE

$$9 \text{ kg} \rightarrow 7 \times 9 = \$63$$


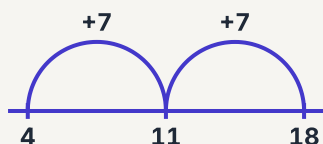
Number of units

$$\text{total} \div \text{rate}$$

EXAMPLE

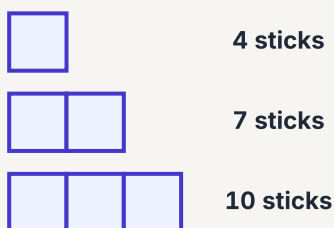
$$\$35 \rightarrow 35 \div 7 = 5 \text{ kg}$$

Number and Shape Patterns Term 4



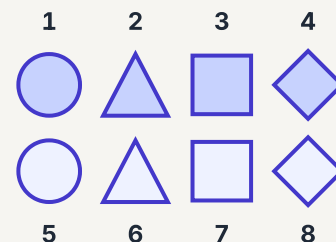
Number pattern: any term

To reach the 20th term, add 19 jumps to the first term.

$$20\text{th term} \rightarrow 4 + 19 \times 7 = 137$$


Shape pattern

Figure 1 is 4 sticks. Each new square adds 3 sticks.

$$\text{Figure } 10 \rightarrow 4 + 9 \times 3 = 31$$


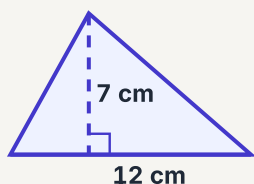
Repeating pattern

Divide by the length of the repeat. The remainder is the place: R 2 is the 2nd shape, a triangle.

$$50\text{th, repeat of } 4 \rightarrow 50 \div 4 = 12 \text{ R } 2$$

MEASUREMENT & GEOMETRY

Area of Triangle Term 2



Area of a triangle

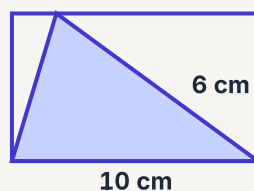
$$\frac{1}{2} \times \text{base} \times \text{height}$$

EXAMPLE

$$\frac{1}{2} \times 12 \times 7 = 42 \text{ cm}^2$$

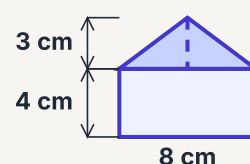

The height can be outside

It is always at right angles to the base.

$$\frac{1}{2} \times 4 \times 6 = 12 \text{ cm}^2$$


Half of its rectangle

Same base and height as the rectangle: half its area.

$$\frac{1}{2} \times 10 \times 6 = 30 \text{ cm}^2$$


Composite figures

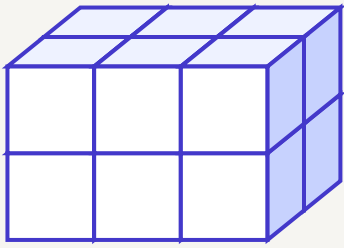
Split into rectangles, squares and triangles. Add, or take away.

$$8 \times 4 + \frac{1}{2} \times 8 \times 3 = 44 \text{ cm}^2$$


MEASUREMENT & GEOMETRY

Volume of Cube and Cuboid

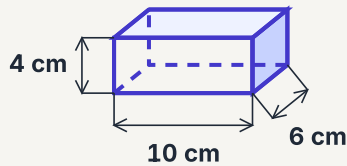
Term 2



Volume in unit cubes

Each cube is 1 cm^3 . This block is 3 cubes long, 2 wide and 2 high.

$$3 \times 2 \times 2 = 12 \text{ cm}^3$$

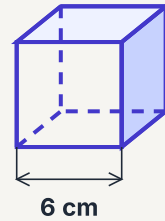


Volume of a cuboid

length $\times$ breadth $\times$ height

EXAMPLE

$$10 \times 6 \times 4 = 240 \text{ cm}^3$$

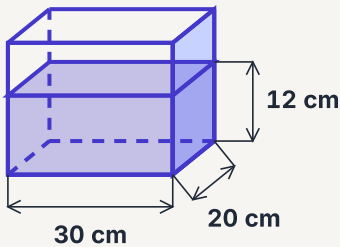


Volume of a cube

edge $\times$ edge $\times$ edge

EXAMPLE

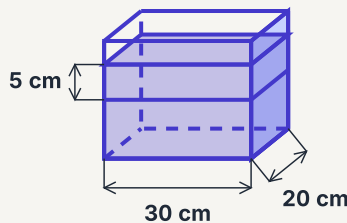
$$6 \times 6 \times 6 = 216 \text{ cm}^3$$



Water in a tank

Volume of water = length $\times$ breadth $\times$ height of the water

$$30 \times 20 \times 12 = 7200 \text{ cm}^3$$



Water added or taken out

Volume = length $\times$ breadth $\times$ the change in height

$$30 \times 20 \times 5 = 3000 \text{ cm}^3$$

$$1 \ell = 1000 \text{ cm}^3$$

Litres and cm^3

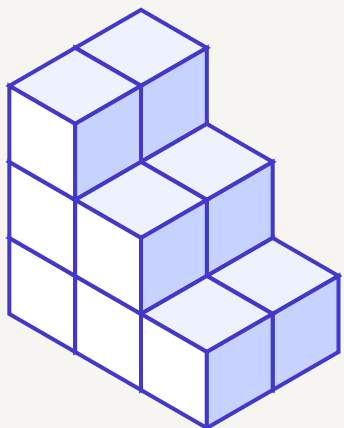
$$1 \text{ ml} = 1 \text{ cm}^3$$

EXAMPLE

$$7200 \div 1000 = 7.2 \ell$$

Shapes and Spatial Reasoning

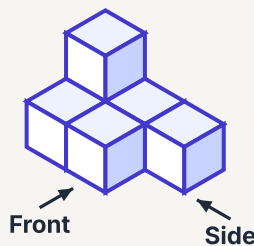
Term 2



Count cubes layer by layer

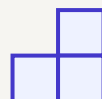
Count each layer, from the bottom up.

$$\text{bottom to top} \rightarrow 6 + 4 + 2 = 12$$



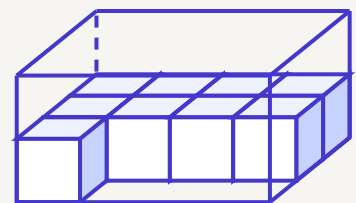
Front view

Side view



Front and side views

Look straight at one face. Draw only the squares you see.



Cubes to fill a box

Cubes the full box holds – cubes already in it

$$4 \times 3 \times 2 - 9 = 15$$

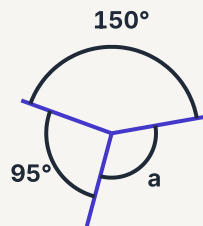


MEASUREMENT & GEOMETRY

Angles Term 3**Angles on a straight line**

They add up to 180° .

$$a \rightarrow 180 - 125 = 55^\circ$$

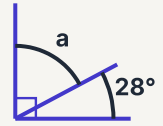
**Angles at a point**

They add up to 360° .

$$360 - 150 - 95 = 115^\circ$$

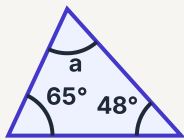
**Vertically opposite angles are equal**

So $a = 110^\circ$.

**Angles in a right angle**

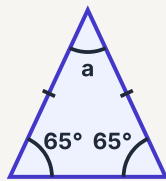
They add up to 90° .

$$a \rightarrow 90 - 28 = 62^\circ$$

Properties of Triangles Term 4**Angles in a triangle**

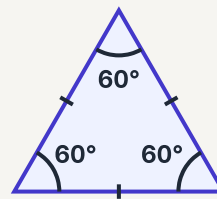
They add up to 180° .

$$180 - 65 - 48 = 67^\circ$$

**Isosceles triangle**

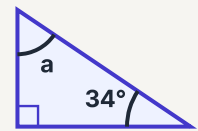
2 equal sides, 2 equal base angles.

$$180 - 65 - 65 = 50^\circ$$

**Equilateral triangle**

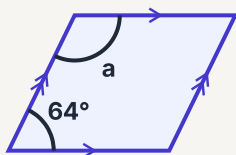
3 equal sides. Every angle is 60° .

$$180 \div 3 = 60^\circ$$

**Right-angled triangle**

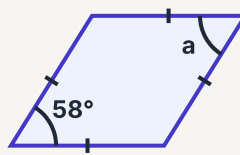
The other two angles add up to 90° .

$$a \rightarrow 90 - 34 = 56^\circ$$

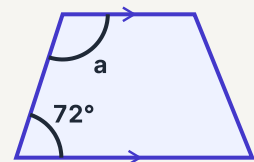
Parallelogram, Rhombus and Trapezium Term 4**Parallelogram**

Opposite sides parallel and equal. Angles next to each other add up to 180° .

$$a \rightarrow 180 - 64 = 116^\circ$$

**Rhombus**

All 4 sides equal. Opposite angles equal: $a = 58^\circ$.

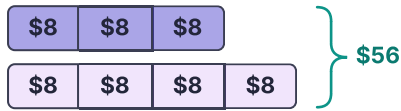
**Trapezium**

One pair of parallel sides. The angles between them add up to 180° .

$$a \rightarrow 180 - 72 = 108^\circ$$



PROBLEM SUMS: HOW TO SPOT EACH METHOD



Units and parts method

"Find 1 unit first"

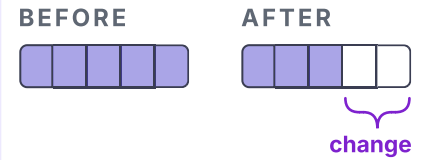
A fraction becomes units: find 1 unit, then scale up.

	Pencils	Pens	Cost
1 set	1	1	\$1.50
12 sets	12	12	\$18

Grouping method

"Sold in fixed sets"

Find what one set is worth. Then the total $\div$ one set = how many sets.



Before and after method

"Something changes partway"

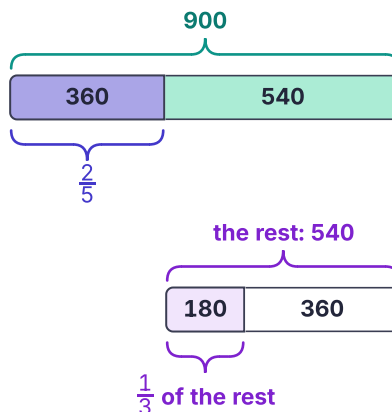
Draw before and after, then find what changed and what did not.

First digit	Numbers made
1	123, 132
2	213, 231
3	312, 321

Systematic list

"How many different ways"

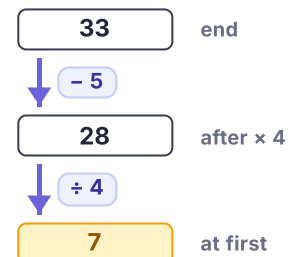
List every way in order, so none is missed or counted twice.



Branching method

"Of the remainder"

Take the next fraction of what is left, not of the whole.



Working backwards

"Start from the end"

Start from the end and undo each step in reverse.

On the paper

- No formula list is given in the exam: know these by heart.
- Paper 1: no calculator.
- Paper 2: calculator allowed.
- Answer in the unit the question gives.
- Show your working: a correct method can earn a mark even when the answer is wrong.
- Fractions in their simplest form.

Units

1 km = 1000 m 1 m = 100 cm

1 kg = 1000 g

1 l = 1000 ml = 1000 cm³

1 h = 60 min

