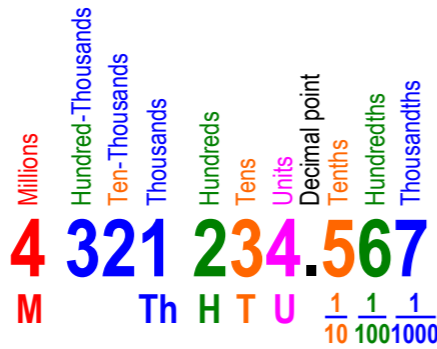


.CG Maths.

KS2 Year 5 Maths
Cheat Sheet (V.1.1)



Largest to Smallest: Compare the digits in each decimal place from the left to the right.

62 345: Sixty-two-thousand three-hundred and forty-five
473.895: Four-hundred and seventy-three point eight nine five
3 800 500: Three-million eight-hundred-thousand five-hundred
9 020 601: Nine-million twenty-thousand six-hundred and one

Rounding: Find the digit in the decimal place which you need to round to. If the next digit on the right is a 0, 1, 2, 3 or 4 round down, or up if there is a 5, 6, 7, 8 or 9. All digits after the rounded decimal place are changed to 0s.

Nearest	3 452 709
100 000	3 500 000
10 000	3 450 000
1 000	3 453 000
100	3 452 700
10	3 452 710

Roman numerals: Values next to each other are added. Values worth less are subtracted from the larger value on its right.
 I (1), V (5), X (10), L (50), C (100), D (500), M (1000)
 (e.g. VII = 7, XL = 40, CMLXXVIII = 978, MMXX = 2020)

Linear Sequences: A pattern of numbers which increases or decreases by a fixed amount between each term/number.
 e.g. 3, 5.5, 8, 10.5 (+2.5 each time), 7, 3, -1, -5 (-4 each time).
 Sequences go from left to right. Going from right to left will have the opposite rule (e.g. adding 3 will be subtracting 3 in reverse).

$\begin{array}{r} 698345 \\ + 102546 \\ \hline 800891 \end{array}$	<div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: fit-content;"> <table border="0" style="font-size: small;"> <tr> <td style="text-align: right;">700000</td> <td style="text-align: left;">500000</td> </tr> <tr> <td style="text-align: right;">+ 100000</td> <td style="text-align: left;">- 400000</td> </tr> <tr> <td style="text-align: right;">800000</td> <td style="text-align: left;">100000</td> </tr> </table> <p>Therefore both of these calculations seem reasonable.</p> </div>	700000	500000	+ 100000	- 400000	800000	100000	$\begin{array}{r} 413171 \\ - 548354 \\ \hline - 358841 \\ \hline 189513 \end{array}$
700000	500000							
+ 100000	- 400000							
800000	100000							

Rounding to check: Round a number to make a calculation easier in order to get a quick and rough answer. If the answer we get is significantly different to a calculated result (generally more than double or less than half), it indicates that the calculation is probably wrong. Apply some logic (e.g. if $200 \times 5 = 1000$, $196 \times 4.5 = 1001$ must be wrong because it must be less than 1000 as 196 is less than 200 and 4.5 is less than 5).

Squared: Multiplied by itself (e.g. $3^2 = 3 \times 3 = 9$)
Cubed: Multiplied by itself twice (e.g. $3^3 = 3 \times 3 \times 3 = 27$).
Square/cube number: a whole number which is the result of another whole number squared (1, 4, 9...) or cubed (1, 8, 27...).

$1 \times 24 = 24$ $2 \times 12 = 24$ $3 \times 8 = 24$ $4 \times 6 = 24$
 1, 2, 3, 4, 6, 8, 12 and 24 are **factors** of 24
 1 & 24, 2 & 12, 3 & 8 and 4 & 6 are **factor pairs** of 24
 1, 2, 3, 4, 6 and 12 are **common factors** of 12 and 24
 24 is a **multiple** of 1, 2, 3, 4, 6, 8, 12 and 24

Multiple
 $\times \uparrow \downarrow \div$
Whole Number
 $\times \uparrow \downarrow \div$
Factor

Prime number: only divisible by itself and 1. They don't appear in any times-tables apart from their own and the 1 times-table.

Prime factor: a prime number which is a factor of another number.

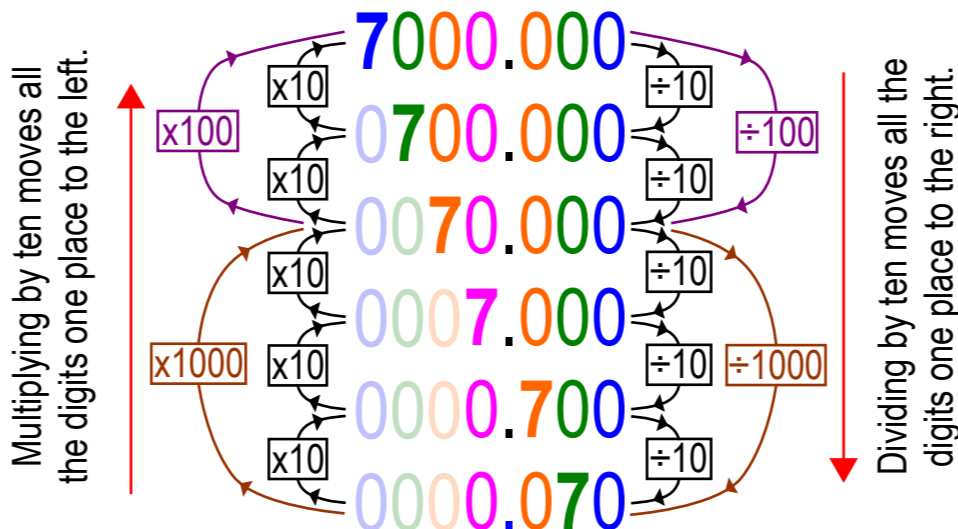
Composite number: can be expressed as the product of factors.

Finding primes: every composite number can be expressed as the product of prime factors. If it can't it must be prime. Therefore we can try dividing a number by prime numbers to see if it is prime. If it divides without a remainder, it is prime (e.g. 2, 3, 5, 7, 11, 13, 17, 19...).

$\begin{array}{r} 1668 \\ \times 37 \\ \hline 11676 \\ 445 \\ \hline 50040 \\ 222 \\ \hline 61716 \end{array}$	<div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: fit-content;"> $1668 \times 37 = 1668 \times 30 + 1668 \times 7$ $1668 \times 7 = 8 \times 7 + 60 \times 7 + 600 \times 7 + 1000 \times 7$ $1668 \times 30 = 1668 \times 3 \times 10$ $1668 \times 3 = 8 \times 3 + 60 \times 3 + 600 \times 3 + 1000 \times 3$ </div>	<div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: fit-content;"> <p>r stands for remainder.</p> $1000 \div 800 = 0 \text{ r}1000$ $1200 \div 800 = 1 \text{ r}400$ $410 \div 80 = 5 \text{ r}10$ $18 \div 8 = 2 \text{ r}2$ </div>	$8 \overline{) 112418} \begin{matrix} 1 \\ 5 \\ 2 \\ \text{r}2 \end{matrix}$
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Adding a 0 effectively multiplies everything by 10 and writing the numbers in the correct column (decimal place) allows us to do the calculations of 3×8 , 3×6 , 3×6 then 3×1

Interpreting remainders: round up if the calculation is to determine how much of something is needed (e.g. number of days needed to complete a task). Round down if the calculation is to determine a number of complete things (e.g. the number of full days spent on a task).



$6 \times 7 = 6(7) = 6(3 + 4) = 6 \times (3 + 4) = 6 \times 3 + 6 \times 4 = 18 + 24 = 46$

$26 \div 4 = \frac{26}{4} = 6 \text{ r}2 = 6 \frac{2}{4} = 6 \frac{1}{2} = 6.5$

$\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$

Brackets: perform calculation within them first. Multiply if a number is next to the outside of them.

$\frac{3}{7} + \frac{5}{14} = \frac{6}{14} + \frac{5}{14} = \frac{11}{14}$

Add/subtract Fractions: add numerators and combine into one fraction if denominators are the same.

Equivalent Fractions: multiply/divide both the numerator and denominator by the same amount.

Multiply Fractions: multiply the numerators by the whole number (e.g. $\frac{3}{2} \times 4 = \frac{12}{2} = 6$, $\frac{7}{5} \times 3 = \frac{21}{5}$)

Round to 1 decimal place: If the second decimal place is a 0, 1, 2, 3 or 4 round the first decimal place down, or up if there is a 5, 6, 7, 8 or 9. All digits after the rounded decimal place are changed to 0s (e.g. 5.61; 5.6, 7.48; 7.5, 4.77; 4.8, 1.00; 1.0).

Percentages: Per (out of) cent (100). $1\% = \frac{1}{100} = 0.01$, $5\% = \frac{5}{100} = \frac{1}{20} = 0.05$, $10\% = \frac{1}{10} = 0.1$, $20\% = \frac{1}{5} = 0.2$, $25\% = \frac{1}{4} = 0.25$, $50\% = \frac{1}{2} = 0.5$, $100\% = 1$ (all).

$\frac{1}{25}$ of 200 is $\frac{200}{25} = \frac{40}{5} = 8$ $\frac{3}{50}$ of 100 is $\frac{3 \times 100}{50} = \frac{30}{5} = 6$

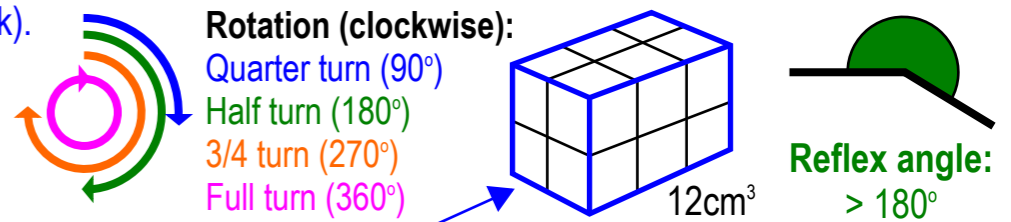
$\begin{array}{r} 0.87 \\ + 0.13 \\ \hline 1.00 \\ \hline 1 \quad 1 \end{array}$	<p>Add/subtract Decimals: column addition and subtraction.</p> <p>1 litre = 1000ml 1 inch is about 2.5cm 1 pound is about 450g 1 pint is about 570ml</p>	$\begin{array}{r} 2.52 \\ - 1.36 \\ \hline 1.16 \end{array}$
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Perimeter: add up all of the lengths of the sides on a 2D shape.

Rectangles: opposite sides are equal. 4 right angles.

Regular: Sides and angles are equal. **Irregular:** not equal.

Measurement: ensure accurate use of rulers and protractors.



Volume: capacity measured in unit cubes (e.g. cm^3 or litres)

Reflection: other half of a symmetry.

Translation: movement of a shape.



Line graph: Height of the line is the number (be careful of the scale).

