

## Multiplication and division vocabulary

| Term             | Definition   | Example   |
|------------------|--|---|
| factor           | a number that divides exactly into another number              | factors of 12 = 1, 2, 3, 4, 6, 12                                       |
| common factor    | factors of two numbers that are the same                       | common factors of 8 and 12 = 1, 2, 4                                    |
| prime number     | a number with only 2 factors: 1 and itself                     | 2, 3, 5, 7, 11, 13, 17, 19...   |
| composite number | a number with more than two factors                            | 12 (it has 6 factors)   |
| prime factor     | a factor that is prime   | prime factors of 12 = 2, 3  |
| multiple         | a number in another number's times table                       | multiples of 9 = 9, 18, 27, 36...                                       |
| common multiple  | multiples of two numbers that are the same                     | common multiples of 4 and 6 = 12, 24...                                 |
| square numbers   | the result when a number has been multiplied by itself         | 25 ( $5^2 = 5 \times 5$ )<br>49 ( $7^2 = 7 \times 7$ )                  |
| cube numbers     | the result when a number has been multiplied by itself 3 times | 8 ( $2^3 = 2 \times 2 \times 2$ )<br>27 ( $3^3 = 3 \times 3 \times 3$ ) |

## Roman numerals

|    |   |      |   |
|----|---|------|---|
| 1  | I | 100  | C |
| 5  | V | 500  | D |
| 10 | X | 1000 | M |
| 50 | L |      |   |

# YEAR 5 MATHS KNOWLEDGE ORGANISER

## Measurement conversions

| Month     | Days                 |
|-----------|----------------------|
| January   | 31                   |
| February  | 28 (29 in leap year) |
| March     | 31                   |
| April     | 30                   |
| May       | 31                   |
| June      | 30                   |
| July      | 31                   |
| August    | 31                   |
| September | 30                   |
| October   | 31                   |
| November  | 30                   |
| December  | 31                   |

1 year = 365 days ( $\approx$  52 weeks)  
Leap year = 366 days

|              |                              |
|--------------|------------------------------|
| 1 centimetre | 10mm                         |
| 1 metre      | 100cm                        |
| 1 kilometre  | 1,000 m                      |
| 1 mile       | 1.6 km                       |
| 1 kilometre  | 0.625 ( $\frac{5}{8}$ ) mile |
| 1 kilogram   | 1,000 grams                  |
| 1 litre      | 1,000 millilitres            |

## Co-ordinates

Read co-ordinates along the x axis (horizontal) first, then the y axis (vertical). E.g. (3,-4) = go right 3, down 4.

## 2D shapes

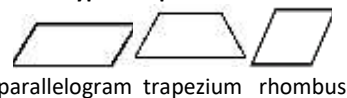
| Name          | No. of sides |
|---------------|--------------|
| quadrilateral | 4            |
| pentagon      | 5            |
| hexagon       | 6            |
| heptagon      | 7            |
| octagon       | 8            |
| nonagon       | 9            |
| decagon       | 10           |

polygon = shape with straight sides  
regular = all sides/angles the same  
irregular = sides/angles **not** same

### Types of triangle



### Types of quadrilateral



### AREA

is the amount of space inside a 2D shape usually measured in  $\text{cm}^2$  or  $\text{m}^2$ .

#### Area of a triangle

$$= (\text{base} \times \text{height}) \div 2$$

#### Area of a parallelogram

$$= \text{base} \times \text{height}$$

(Height = perpendicular height)

## 3D shapes



square-based pyramid



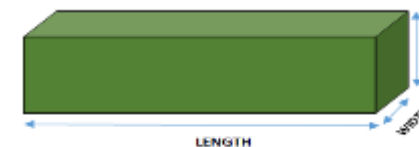
triangular-based pyramid



triangular prism

|  | square-based pyramid | triangular-based pyramid | triangular prism |
|--|----------------------|--------------------------|------------------|
| <b>faces</b><br>(the flat sides)                     | 5                    | 4                        | 5                |
| <b>edges</b>   | 8                    | 6                        | 9                |
| <b>vertices</b><br>(the points where the edges meet) | 5                    | 4                        | 6                |

**Volume** = the amount of space a 3D shape takes up, usually measured in  $\text{cm}^3$  or  $\text{m}^3$



$$\text{Volume of a cuboid} = \text{length} \times \text{width} \times \text{height}$$

## Fractions, decimals & percentages

|                 |      |      |                    |
|-----------------|------|------|--------------------|
| $\frac{1}{100}$ | 0.01 | 1%   | $\div 100$         |
| $\frac{1}{20}$  | 0.05 | 5%   | $\div 20$          |
| $\frac{1}{10}$  | 0.1  | 10%  | $\div 10$          |
| $\frac{1}{5}$   | 0.2  | 20%  | $\div 5$           |
| $\frac{1}{4}$   | 0.25 | 25%  | $\div 4$           |
| $\frac{1}{2}$   | 0.5  | 50%  | $\div 2$           |
| $\frac{3}{4}$   | 0.75 | 75%  | $\div 4, \times 3$ |
| 1               | 1    | 100% | $\div 1$           |

## Angles

|                               |               |
|-------------------------------|---------------|
| full turn                     | $360^\circ$   |
| half turn                     | $180^\circ$   |
| right angle                   | $90^\circ$    |
| acute angle                   | $< 90^\circ$  |
| obtuse angle                  | $> 90^\circ$  |
| reflex angle                  | $> 180^\circ$ |
| angles on a straight line     | $180^\circ$   |
| angles inside a triangle      | $180^\circ$   |
| angles inside a quadrilateral | $360^\circ$   |

## Shape vocabulary

**perimeter** = measure around the edge

horizontal line

parallel lines

vertical line

perpendicular lines  
(at right angles)

- vertex/ vertices
- edge (curved or flat)
- area
- volume

## The mean

The mean is a type of average. To find the mean, add up all the numbers and divide by how many there are. E.g. the mean of 4, 5, 3, 4 is 4. (Because  $4 + 5 + 3 + 4 = 16$ , and  $16 \div 4 = 4$ )