Ashfield Valley Primary School— Year 6 —Spring 1 Maths Knowledge Organiser

Calculating the MEAN

The mean is the average or norm.

Add up all of the values to find a total.

Divide the total by the number of values you added together.

$2 + 2 + 5 + 6 + 7 + 8 = 30$

$30 ÷ 6 = 5$

The mean number is

5

Fractions, of Quantities

$\frac{3}{4}$ of 48

divide by the denominator

multiply by the numerator

divide by 4

$48 ÷ 4 = 12$

multiply by 3

$12 × 3 = 36$

$\frac{3}{4}$ of 48 = 36

Long Division

D13: **Long division (no remainders)**

```
      0325
25 | 8125
    - 75↓     (x3)
      62
     -50↓     (x2)
      125
     -125     (x5)
        0
```

8125÷25=325

Properties of 3D Shapes
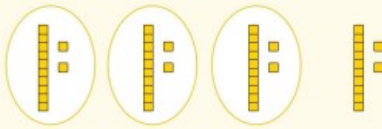
Name	Surfaces		Edges		Vertices	Picture
	Flat	Curved	Flat	Curved		
sphere	0	1	0	0	0	
cube	6	0	12	0	8	
cuboid	6	0	12	0	8	
cone	1	1	0	1	0	
cylinder	2	1	0	2	0	
square-based pyramid	5	0	8	0	5	
tetrahedron	4	0	6	0	4	
triangular prism	5	0	9	0	6	
pentagonal prism	7	0	15	0	10	
hexagonal prism	8	0	18	0	12	
octagonal prism	10	0	24	0	16	
octahedron	8	0	12	0	6	

Ratio

A ratio shows the relative sizes of two or more values.

Green paint is made by mixing blue and yellow paint in the ratio

2:3

You could apply this ratio to different quantities to make different amounts of the end product. For example 2 tablespoons to 3 tablespoons or 2 litres to 3 litres.

Concrete contains sand and cement in a ratio 5:2. You can scale up or down in a ratio as long as you multiply or divide by the same number, for example 10:4 is 2×5:2.

A recipe for pancakes uses 3 cups of flour and 2 cups of milk. The ratio of flour to milk is 3:2. To make 4 times as many pancakes we multiply the numbers by 4.
3×4 : 2×4 = 12:8
The ratio is still the same.

Properties of 2D Shapes

Name		Sides	Vertices
triangle		3	3
circle		1	0
square		4	4
rectangle		4	4
pentagon		5	5
hexagon		6	6
oval		1	0
rhombus		4	4
trapezium		4	4
parallelogram		4	4