Foundation Maths Organiser

Numbers To 20

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Number Bonds Within 5

1	2	3	4	5
0 + 1	0 + 2	0 + 3	0 + 4	0 + 5
	1 + 1	1 + 2	1 + 3	1 + 4
			2 + 2	2 + 3
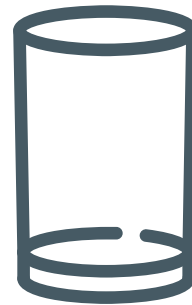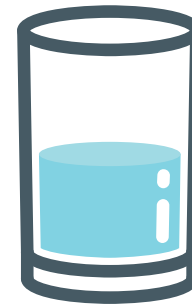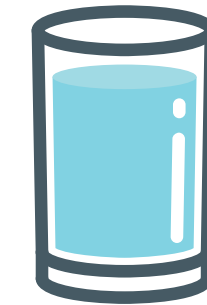
Doubles

0	0
1	2
2	4
3	6
4	8
5	10

Halves

0	0
2	1
4	2
6	3
8	4
10	5

Language

5 + 3	Addition
8 - 3	Subtraction
+	Plus
-	Subtract
=	Is Equal To
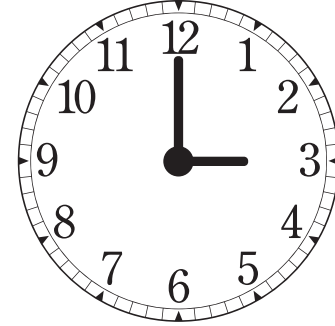
Quantity To 10

1	●	6	●●●●● ●
2	●●	7	●●●●● ●●
3	●●●	8	●●●●● ●●●
4	●●●●	9	●●●●● ●●●●
5	●●●●●	10	●●●●● ●●●●●

Shapes

circle	◯
triangle	△
square	▢
rectangle	▭

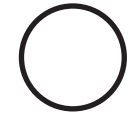## Pattern

Colour	■ ■ ■ ■	blue, green, blue, green
Size		big, small, big, small
Length		tall, short, tall, short

Months Of The Year

January	May	September
February	June	October
March	July	November
April	August	December

Capacity

Empty	Half Full	Full

Time

O'Clock		The minute hand points to twelve and the hour hand points to the hour.

Weight

Heavy / Heavier / Heaviest	
Light / Lighter / Lightest	
Balanced / Equal	
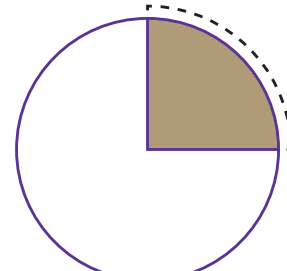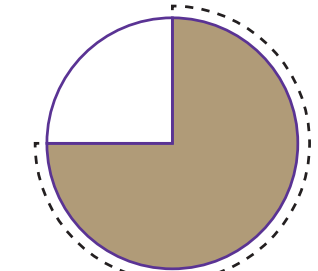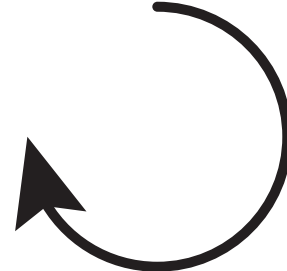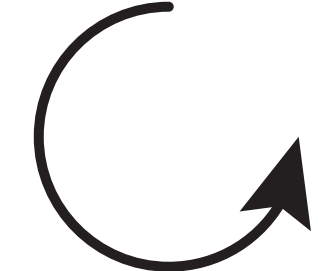
Year One Maths Organiser

Doubles

6	12
7	14
8	16
9	18
10	20
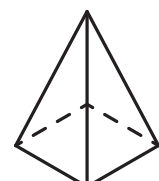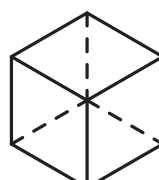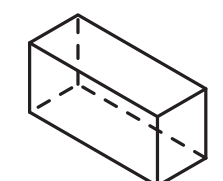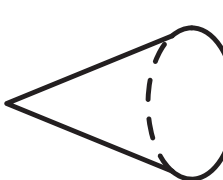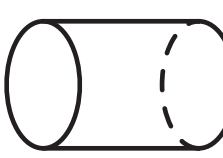
Halves

12	6
14	7
16	8
18	9
20	10

Symbols and Language

+	plus add
-	minus subtract
=	is equal to
5 – 3 = 2	difference
odd numbers	numbers ending with 1, 3, 5, 7 or 9
even numbers	numbers ending with 2, 4, 6, 8 or 0

Derived Facts

4 Whole	**3** Part / **1** Part

part + part = whole	3 + 1 = 4
part + part = whole	1 + 3 = 4
whole - part = part	4 - 3 = 1
whole - part = part	4 - 1 = 3

2D Shapes

circle	1 curved side 0 vertices
triangle	3 straight sides 3 vertices
rectangle	4 straight sides 4 right-angled vertices

3D Shapes

sphere	
pyramid	
cube	
cuboid	
cone	
cylinder	
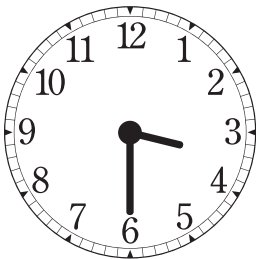
Numerals and Number Names

0	zero	10	ten
1	one	20	twenty
2	two	30	thirty
3	three	40	forty
4	four	50	fifty
5	five	60	sixty
6	six	70	seventy
7	seven	80	eighty
8	eight	90	ninety
9	nine	100	one hundred

Number Bonds Within 10

6	0 + 6, 1 + 5 2 + 4, 3 + 3
7	0 + 7, 1 + 6 2 + 5, 3 + 4
8	0 + 8, 1 + 7, 2 + 6 3 + 5, 4 + 4
9	0 + 9, 1 + 8, 2 + 7 3 + 6, 4 + 5
10	0 + 10, 1 + 9, 2 + 8 3 + 7, 4 + 6, 5 + 5
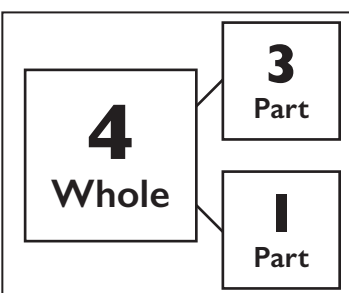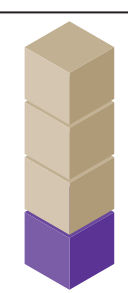
Turns

Quarter turn	Three-quarter turn
Clockwise	Anti-clockwise

Time

Half past		The long minute hand points to six and the short hour hand points past the hour.

24 hours in a day	60 minutes in an hour
60 seconds in a minute	
A.M. - Morning	P.M. - Afternoon
Midday – 12:00PM	Midnight – 12:00AM
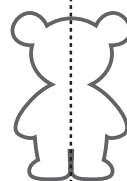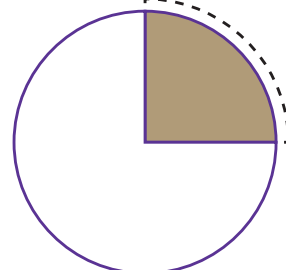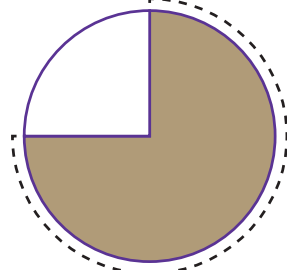
Place Value Grid

	tens	ones
Numeral	10	1

Year Two Maths Organiser

Doubles

11	22		
12	24		
13	26		
14	28		
15	30		
16	32		
17	34		
18	36		
19	38		
20	40		

Halves

22	11
24	12
26	13
28	14
30	15
32	16
34	17
36	18
38	19
40	20

Bonds To 20

0	20
1	19
2	18
3	17
4	16
5	15
6	14
7	13
8	12
9	11
10	10
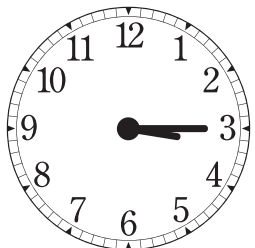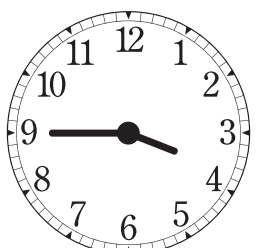
Fractions

½	one half
⅓	one third
⅔	two thirds
¼	one quarter
¾	three quarters
⅕	one fifth

$$\frac{1}{2} = \frac{2}{4}$$
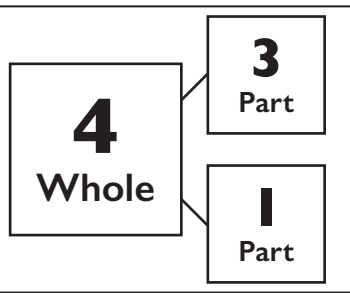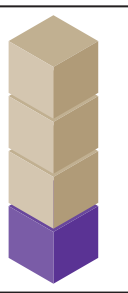
2D Shapes

Quadrilateral	Four straight sides, Four vertices
Pentagon	Five straight sides, Five vertices
Hexagon	Six straight sides, Six vertices
Polygon	A closed shape with three or more straight sides
Regular Shape	A shape where all sides are equal and all angles are equal
Irregular Shape	A shape with sides or angles of different sizes
Has a line of symmetry	
Does not have a line of symmetry	

Turns

Quarter turn

Three-quarter turn

Time

Quarter Past		The minute hand points to three and the hour hand points past the hour.
Quarter To		The minute hand points to nine and the hour hand points near the next hour.
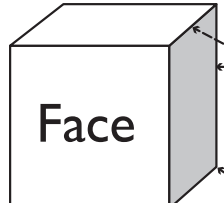
Bonds up to 20

19 = 0 + 19	19 = 5 + 14
19 = 1 + 18	19 = 6 + 13
19 = 2 + 17	19 = 7 + 12
19 = 3 + 16	19 = 8 + 11
19 = 4 + 15	19 = 9 + 10

Multiplication Tables

X	2	3	5	10
1	2	3	5	10
2	4	6	10	20
3	6	9	15	30
4	8	12	20	40
5	10	15	25	50
6	12	18	30	60
7	14	21	35	70
8	16	24	40	80
9	18	27	45	90
10	20	30	50	100
11	22	33	55	110
12	24	36	60	120

Derived Facts

4 Whole
3 Part
1 Part

part + part = whole	3 + 1 = 4
part + part = whole	1 + 3 = 4
whole = part + part	4 = 3 + 1
whole = part + part	4 = 1 + 3
whole - part = part	4 - 3 = 1
whole - part = part	4 - 1 = 3
part = whole - part	1 = 4 - 3
part = whole - part	3 = 4 - 1

3D Shapes

Faces, Edge and Vertices

Edge

Face

Vertex

Numbers to 1000

100	one hundred	600	six hundred
200	two hundred	700	seven hundred
300	three hundred	800	eight hundred
400	four hundred	900	nine hundred
500	five hundred	1000	one thousand

Place Value Grid

	hundreds	tens	ones
Numeral	100	10	1

Year Three Maths Organiser

Number Bonds To 100

0	100	20	80	35	65
5	95	25	75	40	60
10	90	30	70	45	55
15	85			50	50

Multiplication and Division – Derived Facts
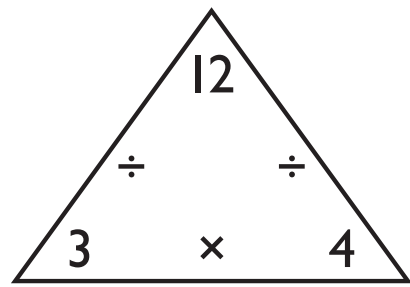
$$3 \times 4 = 12$$
$$4 \times 3 = 12$$
$$12 = 3 \times 4$$
$$12 = 4 \times 3$$
$$12 \div 3 = 4$$
$$12 \div 4 = 3$$
$$4 = 12 \div 3$$
$$3 = 12 \div 4$$

(triangle: 12, 3, 4 with ÷ ÷ ×)

Telling The Time

It's ... o'clock
It's five to ... / It's five past ...
It's ten to ... / It's ten past ...
It's quarter to ... / It's quarter past ...
It's twenty to ... / It's twenty past ...
It's twenty-five to ... / It's twenty-five past ...
It's half past ...

(clock face with "to" and "past")
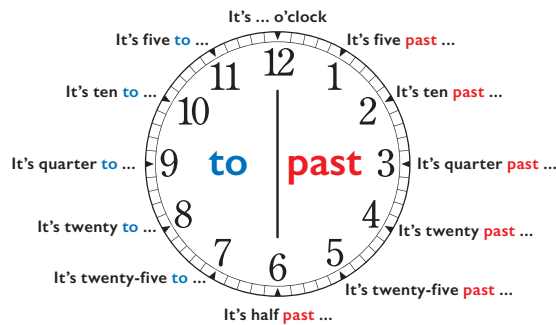
2.05	five past two
3.10	ten past three
19.20	twenty past seven
16.25	twenty-five past four
8.35	twenty-five to nine
21.40	twenty to ten
5.50	ten to six
12.55	five to one

3D Shapes

Prisms and Pyramids

triangular prism, square prism, rectangular prism, pentagonal prism, hexagonal prism, octagonal prism

triangular pyramid, square pyramid, rectangular pyramid, pentagonal pyramid, hexagonal pyramid, octagonal pyramid
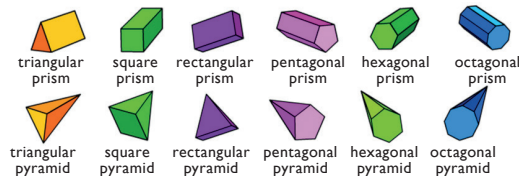
Fractions

½	one half
⅓	one third
⅔	two thirds
¼	one quarter
¾	three quarters
⅕	one fifth
⅙	one sixth
⅐	one seventh
⅛	one eighth
⅑	one ninth

Multiplication Tables

X	4	8	3	6	9
1	4	8	3	6	9
2	8	16	6	12	18
3	12	24	9	18	27
4	16	32	12	24	36
5	20	40	15	30	45
6	24	48	18	36	54
7	28	56	21	42	63
8	32	64	24	48	72
9	36	72	27	54	81
10	40	80	30	60	90
11	44	88	33	66	99
12	48	96	36	72	108

Days in a Month

January	31
February	28*
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

Leap year is 366 days with 29 days in February
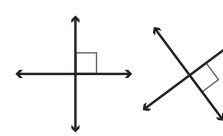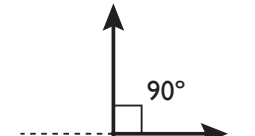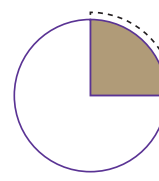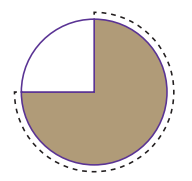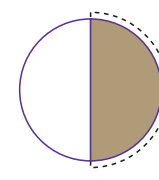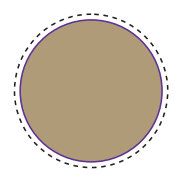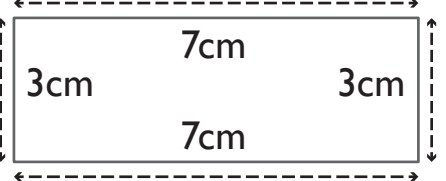
2D Shapes

triangle	a three sided polygon
quadrilateral	a four sided polygon
pentagon	a five sided polygon
hexagon	a six sided polygon
heptagon	a seven sided polygon
octagon	an eight sided polygon
nonagon	a nine sided polygon
decagon	a ten sided polygon
hendecagon	an eleven sided polygon
dodecagon	a twelve sided polygon

Measurements

mm in a cm	10 mm = 1 cm	m in a km	1000m = 1km
mm in a m	1000 mm = 1 m	g in a kg	1000g = 1 kg
cm in a m	100 cm = 1 m	ml in a l	1000 ml = 1 l

60 seconds in a minute	60 minutes in an hour	24 hours in one day

7 days in a week	12 months in one year

Geometry

Vertical	(arrows: Vertical, Horizontal)	Parallel	(parallel arrows)
Horizontal			
Perpendicular	(perpendicular lines)	Right Angle	90°
Quarter Turn	(circle quarter)	Three-quarter Turn	(circle three-quarter)
Half Turn	(circle half)	Full Turn	(full circle)

Perimeter
The total distance around the outside of a shape.
(Perimeter of diagram = 20cm)

(rectangle: 7cm top, 7cm bottom, 3cm left, 3cm right)

Place Value Grid

	thousands	hundreds	tens	ones		tenths	hundredths
Numeral	1000	100	10	1	●	0.1	0.01
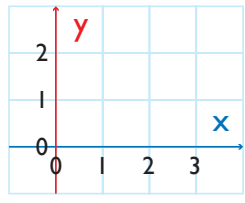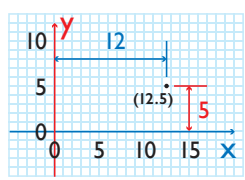
Fraction Decimal Equivalence

1/10 = 0.1	4/10 = 0.4	7/10 = 0.7	10/10 = 1	¾ = 0.75
2/10 = 0.2	5/10 = 0.5	8/10 = 0.8	½ = 0.5	1/100 = 0.01
3/10 = 0.3	6/10 = 0.6	9/10 = 0.9	¼ = 0.25	23/100 = 0.23

Geometry

Perimeter

The distance around the outside of the shape.

Area

The amount of space taken up by a 2D shape.

Roman Numerals
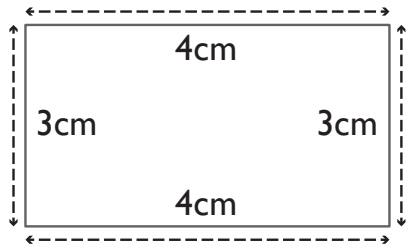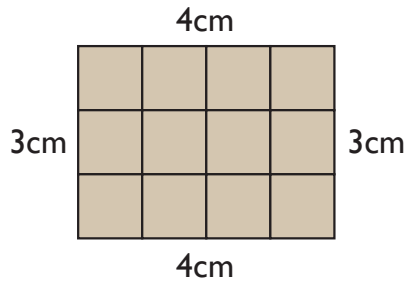
I	1	IX	9
II	2	X	10
III	3	XI	11
IV	4	XII	12
V	5	L	50
VI	6	C	100
VII	7	D	500
VIII	8	M	1000

Coordinates
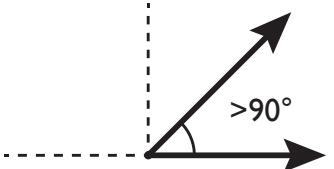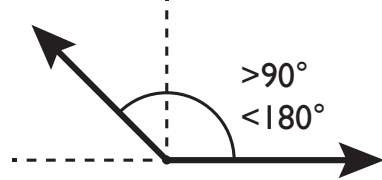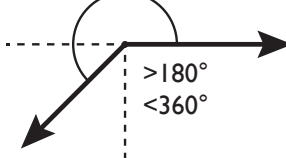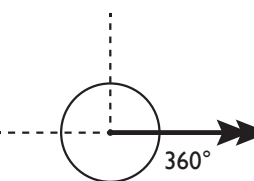
Coordinate Grid

Finding the coordinates of a point. (**x** then **y**)

The point (**12.5**) is 12 units along, and 5 units up.
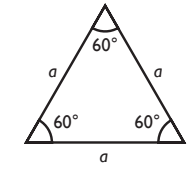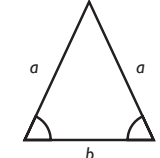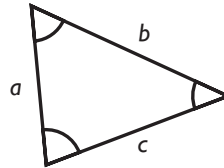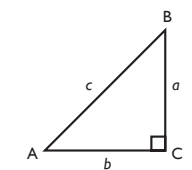
Angles

Acute Angle	1° to 89°	>90°
Right Angle	90°	90°
Obtuse Angle	91° to 179°	>90° <180°
Reflex Angle	181° to 359°	>180° <360°
Full Turn	360°	360°
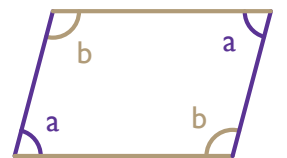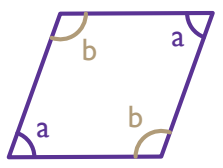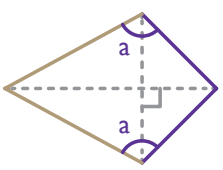
Multiplication Tables

X	7	6	12	11
1	7	6	12	11
2	14	12	24	22
3	21	18	36	33
4	28	24	48	44
5	35	30	60	55
6	42	36	72	66
7	49	42	84	77
8	56	48	96	88
9	63	54	108	99
10	70	60	120	110
11	77	66	132	121
12	84	72	144	132

Triangles

Equilateral	All three sides and angles equal.	
Isosceles	Two sides and two angles equal.	
Scalene	All three sides and angles of different sizes.	
Right Angled	A triangle with a right angle. Can be isosceles or scalene.	

Quadrilaterals

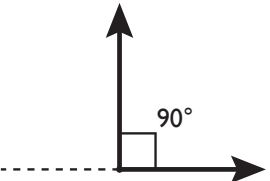|		
Rectangle	• Four sides • Opposite sides parallel • Opposite sides equal length • Four right angles	
Parallelogram	• Four sides • Opposite sides parallel	
Rhombus	• Four equal sides • Opposite sides parallel • Opposite angles equal	
Kite	• Four sides • Pairs of adjacent sides equal • Angles where adjacent sides meet are equal • Diagonals intersect at right angles	

Place Value Grid

	thousands	hundreds	tens	ones		tenths	hundredths
Numeral	1000	100	10	1	●	0.1	0.01
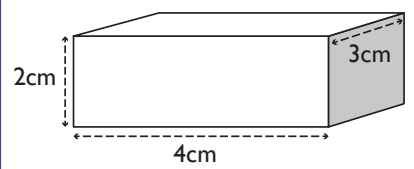
Upper KS2 Maths Organiser

Cube Numbers / Cube Roots

Cube Numbers		Cube Roots	
1^3	1	$\sqrt{1}$	1
2^3	8	$\sqrt{8}$	2
3^3	27	$\sqrt{27}$	3
4^3	64	$\sqrt{64}$	4
5^3	125	$\sqrt{125}$	5

Square Numbers / Square Roots

Square Numbers		Square Roots	
1^2	1	$\sqrt{1}$	1
2^2	4	$\sqrt{4}$	2
3^2	9	$\sqrt{9}$	3
4^2	16	$\sqrt{16}$	4
5^2	25	$\sqrt{25}$	5
6^2	36	$\sqrt{36}$	6
7^2	49	$\sqrt{49}$	7
8^2	64	$\sqrt{64}$	8
9^2	81	$\sqrt{81}$	9
10^2	100	$\sqrt{100}$	10
11^2	121	$\sqrt{121}$	11
12^2	144	$\sqrt{144}$	12
13^2	169	$\sqrt{169}$	13

Prime Numbers

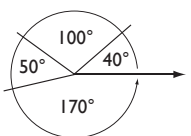|			
2	17	41	67
3	19	43	71
5	23	47	73
7	29	53	79
11	31	59	83
13	37	61	89

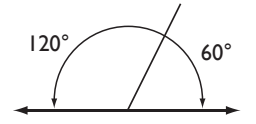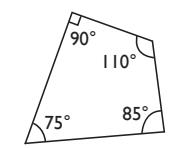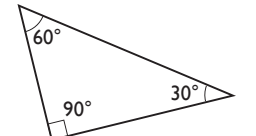## Numbers

0	a number with no value that comes between the positive and negative numbers.
positive number	a number more than 0
negative number	a number less than 0
prime number	A number with exactly two factors, itself and one.
composite number	A number with more than two factors.

Geometry

volume

Volume = length x height x depth

Statistics

mean	the sum of all data points divided by the number of data points

Circle Geometry

radius	a straight line from the centre to the circumference
chord	a straight line joining two points on the circumference
diameter	a chord which passes through the centre
circumference	the distance once around the circle

Roman Numerals

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

Angle Totals

	Angles around a point total 360°
	Angles on a straight line total 180°
	Angles in a quadrilateral total 360°
	Angles in a triangle total 180°

Factors and Multiples

factors	numbers we multiply together to get other numbers.
multiple	the result of multiplying a number by an integer.
HCF	Highest Common Factor - the largest factor shared by two or more numbers.
LCM	Lowest Common Multiple - the smallest number that is a multiple of two or more numbers.

Multiplication Grid

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Place Value Grid

	millions	Hundred thousands	Ten thousands	thousands	hundreds	tens	ones		tenths	hundredths	thousandths
Numeral	1,000,000	100,000	10,000	1000	100	10	1	●	0.1	0.01	0.001