



# Mathematics Knowledge Organiser

## Y6: Number

### Place Value

The value of a digit is based on its place in the number. Each column has a value 10 x the column to the right

TM	M	HTh	TTh	Th	H	T	O
						4	6

Read, write and spell: million, thousand, hundred, all multiples of ten and numbers one to twenty.



11 200 146

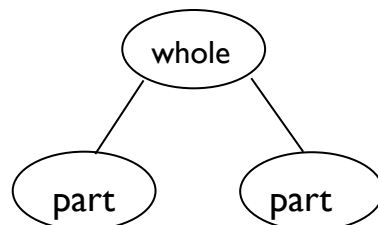
Eleven million, two hundred thousand, one hundred and forty-six



### Calculations and Equations

part + part = whole

whole	
part	part



> greater than    < less than    = the same as



minuend - subtrahend = difference    ∴ therefore

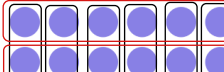

dividend ÷ divisor = quotient

factor x factor = product    ∴ because

### Multiplication Facts

Rapid recall of facts to 12 x 12 including inverse and related facts.

$6 \times 3 = 18$    
 $3 \times 6 = 18$  

$18 \div 3 = 6$    
 $18 \div 6 = 3$  

$30 \times 6 = 180$

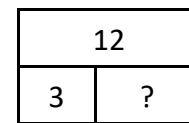
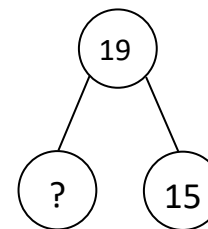
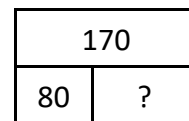
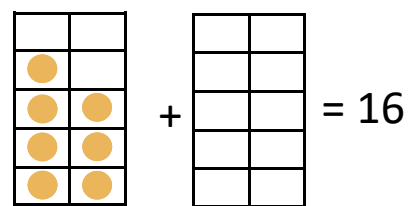
$0.3 \times 6 = 1.8$

$30 \times 60 = 1800$

$0.3 \times 0.6 = 0.18$

### Number Bonds

Instant recall of all number bonds to 20 and multiples of 10 over 100



### Order of Operations

### Roman Numerals

**BIDMAS**

$( ) n^2 \div \times + -$



1000 100 10 1  
 MeDiCaL XaVler  
 500 50 5

**Integer:** a number that can be written whole i.e. without a fraction element

**Positive:** an integer greater than zero e.g. 1, 5, 678

**Negative:** and integer less than zero e.g. -4, -567

**Digit:** numbers are made up of ten symbols 1-9 and 0

**Commutative:** addition and multiplication calculations can be done in any order so  $4 \times 3 \times 2 = 2 \times 3 \times 4 = 3 \times 2 \times 4$  etc.

### Prime Numbers

A number which can only be divided by one and itself.

	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

### Square Numbers

The product of a number multiplied by itself.

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
n <sup>2</sup>	1	4	9	16	25	36	49	64	81	100	121	144	169	196	225

### Multiples

