



Mathematics Knowledge Organiser

Y4: Number & Fractions

Place Value

Say, write, say: thousands, hundreds, tens and ones

Th	H	T	O
•	•	•	•
•		•	•

“Two thousand, one hundred and twenty three”
2,221—two thousands, one hundred, 2 tens and three ones

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

Positive: a number below 0

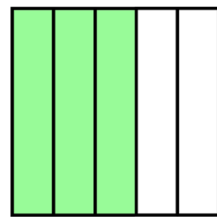
Negative: a number above 0

Digit: number symbols 0-10

Roman Numerals up to 100

1 = I	10 = X
2 = II	20 = XX
3 = III	30 = XXX
4 = IV	40 = XL
5 = V	50 = L
6 = VI	60 = LX
7 = VII	70 = LXX
8 = VIII	80 = LXXX
9 = IX	90 = XC
	100 = C

Fractions



A fraction is **part of a whole**.

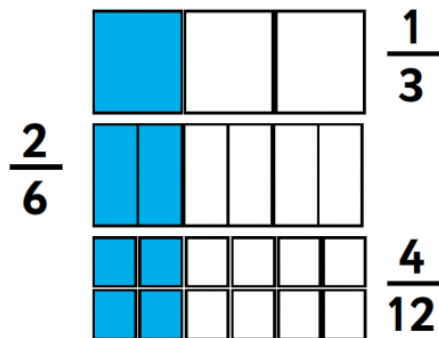
4 → numerator = number of parts

→ fractions bar = divided by / out

5 → denominator = number of parts in

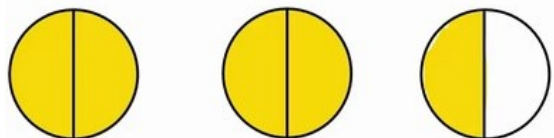
Equivalent fractions

$$\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$$

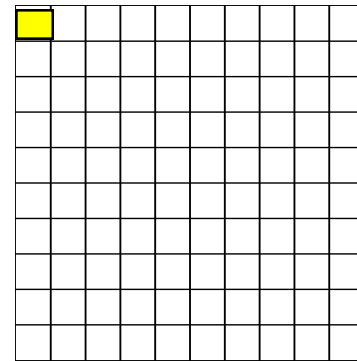


A fraction can be split into wholes and parts.

$$\frac{5}{2} = 2\frac{1}{2}$$



Decimals



$$1 = \frac{100}{100}$$

$$0.1 = \frac{1}{10}$$

$$0.01 = \frac{1}{100}$$

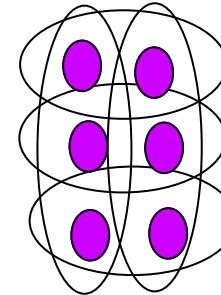
A **decimal point** comes after the ones column when the number includes a fraction and is not whole.

$$\frac{1}{2} = 0.5$$

$$\frac{1}{4} =$$

Ones	Tenths	Hundredths
1	•	$\frac{1}{10}$
3	4	5
“three	point	four five”

Multiplication facts



$$3 \times 2 = 6$$

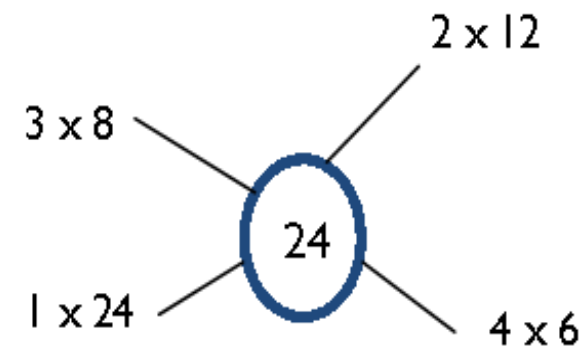
$$2 \times 3 = 6$$

$$6 \div 3 = 2$$

$$6 \div 2 = 3$$

Times tables fact to 12 x 12

Factor Pairs

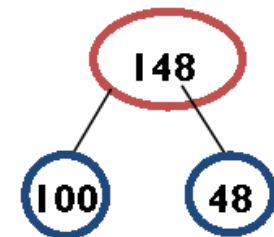
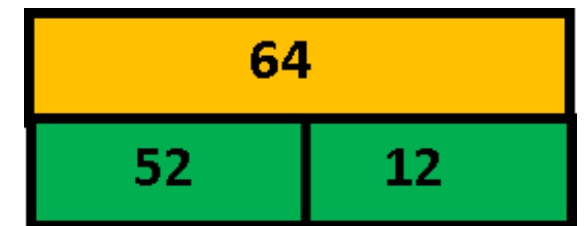


Multiples

1	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
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

Calculations

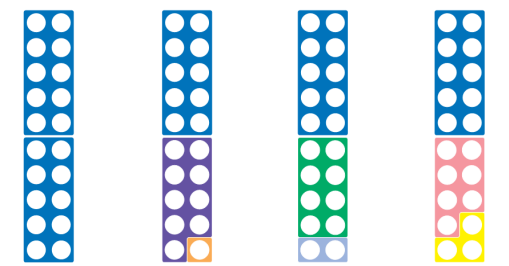
Part + Part = Whole



Fast recall of number bonds to 20

$$? + 5 = 20$$

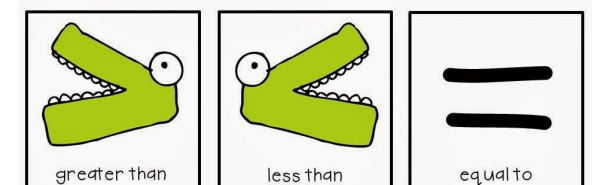
$$20 - 7 = ?$$



$$20 = 1 + 19 \quad 2 + 18 \quad 3 + 17$$

Greater than and less than

= means the same as



Factor x factor = product

Subtrahend - minuend = difference