Year 5: Maths Knowledge Mat

Rounding

78,543

To the **nearest 10** is	78,540
To the **nearest 100** is	78,500
To the **nearest 1000** is	79,000
To the **nearest 10,000** is	80,000
To the **nearest 100,000** is	100,000

67.53

To the **nearest 10** is	70
To the **nearest whole number** is	68
To **one decimal place** is	67.6

Multiplying a fraction by a whole number

If you have a **proper** fraction multiplied by a whole number, it is going to be **less** than that whole number

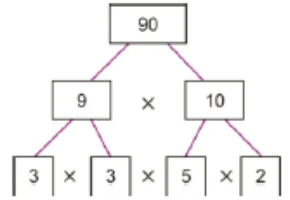
$$\frac{3}{5} \times 2$$

$$\frac{3}{5} \times \frac{2}{1} = \frac{6}{5} = 1\frac{1}{5}$$

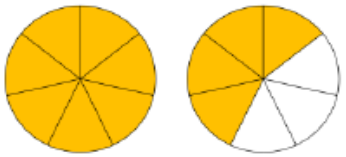
Prime Numbers

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

Prime factors



Converting a mixed number to an improper fraction



$$1\frac{4}{7} = \frac{11}{7}$$

Percentages %

'part per hundred' 50% = $\frac{50}{100}$ 25% = $\frac{25}{100}$

50% of 100 = 50 25% of 100 = 25
50% of 200 = 100 25% of 200 = 50
50% of 300 = 150 25% of 300 = 75

$\frac{1}{2} = 0.5 = 50\%$ $\frac{1}{4} = 0.25 = 25\%$

$\frac{1}{5} = 0.2 = 20\%$ $\frac{2}{5} = 0.4 = 40\%$

Place value

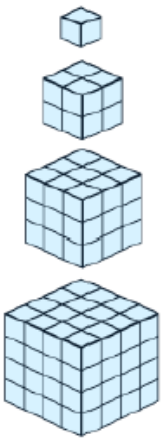
Each row divides by 10

Tens	Ones	.	tenths	hundredths	thousandths
3	6	.	7	0	0
0	3	.	6	7	0
0	0	.	3	6	7

$36.7 = 36\frac{7}{10}$ $3.67 = 3\frac{67}{100}$ $0.367 = \frac{367}{1000}$

Square and cubed numbers

$1^2 = 1 \times 1 = 1$
$2^2 = 2 \times 2 = 4$
$3^2 = 3 \times 3 = 9$
$4^2 = 4 \times 4 = 16$
$5^2 = 5 \times 5 = 25$
$6^2 = 6 \times 6 = 36$
$7^2 = 7 \times 7 = 49$
$8^2 = 8 \times 8 = 64$
$9^2 = 9 \times 9 = 81$
$10^2 = 10 \times 10 = 100$



1 is the first cube number, because 1 x 1 x 1 = **1**

8 is the second cube number, because 2 x 2 x 2 = **8**

27 is the third cube number, because 3 x 3 x 3 = **27**

64 is the fourth cube number, because 4 x 4 x 4 = **64**

Formal methods of multiplication and division

3741 x 6 becomes

```
   3 7 4 1
X          6
-----------
 2 2 4 4 6
   4 2
```

485 ÷ 11 becomes

```
      4 4 r1
    -------
11 | 4 8 5
     4
```

34 x 26 becomes

```
    2
  3 4
X 2 6
-----
6 8 0
2 0 4
-----
8 8 4
```

134 x 27 becomes

```
  2 2
  1 3 4
X   2 7
-------
2 6 8 0
  9 3 8
-------
3 6 1 8
1 1
```

Year 5: Maths Knowledge Mat

Measures – Sticky Knowledge

1 km = 1000 m
1 m = 100 cm
1 cm = 10 mm

1 kg = 1000 g

1 l = 1000 ml

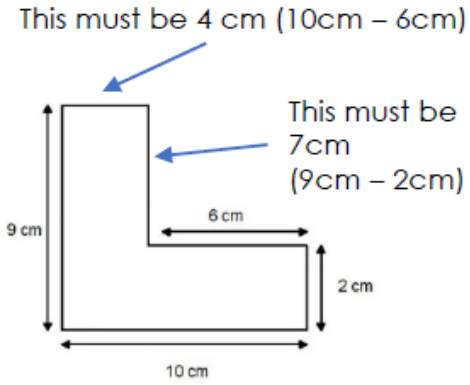
Imperial measures

1 mile = 1.6 km
1 yard = 0.91 m
1 foot = 30 cm
1 inch = 2.54 cm

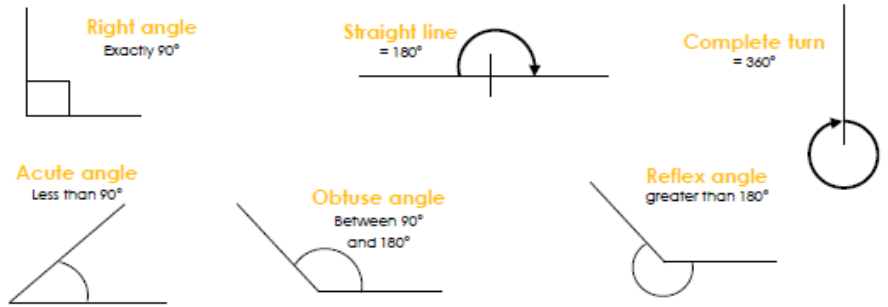
1 lb (pound) = 0.45 kg

1 pint = 0.57 litre

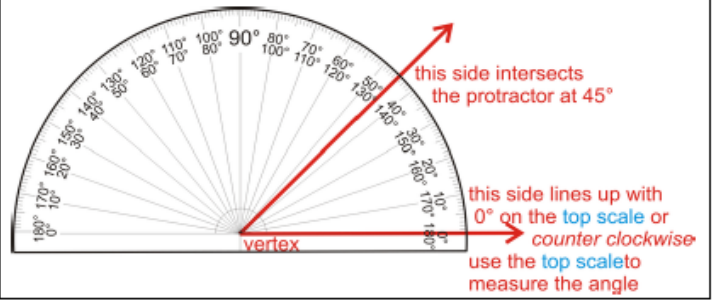
Perimeter



Angles



Using a protractor

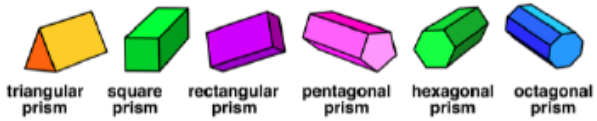


3D Shapes

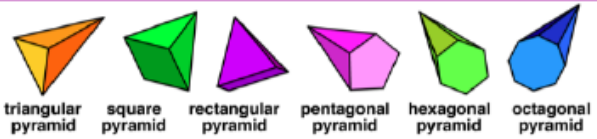
Solid (3D) shapes are three-dimensional shapes having length, breadth and height.

Examples

Prisms



Pyramids



Platonic solids

Roman Numerals

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

Dates

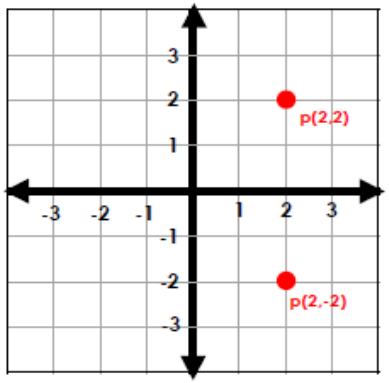
2020 = MMXX
2021 = MMXXI
2022 = MMXXII
2023 = MMXXIII
2024 = MMXXIV

1066 = MLXVI

1939 = MCMXXXIX

Coordinates

P has been reflected in the x axis



The shape has been reflected in the dotted line y=x+2