



Helmshore Primary School Year 5 : Maths Knowledge

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

Percentages %

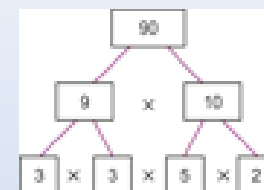
'part per hundred' 50% = $\frac{50}{100}$ 25% = $\frac{25}{100}$

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

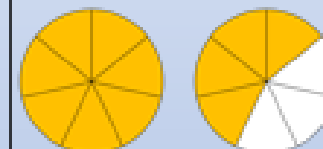
$$\frac{1}{2} = 0.5 = 50\% \quad \frac{1}{4} = 0.25 = 25\%$$

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

Prime factors



Converting a mixed number to an improper fraction



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

Place value

Each row divides by 10

	Tens	Ones	.	tenths	hundredths	thousandths
36.7	3	6	.	7	0	0
3.67	0	3	.	6	7	0
0.367	0	0	.	3	6	7

$$36.7 = 36\frac{7}{10}$$

$$3.67 = 3\frac{67}{100}$$

$$0.367 = \frac{367}{1000}$$

Formal methods of multiplication and division

3741 x 6 becomes

$$\begin{array}{r} 3741 \\ \times 6 \\ \hline 22446 \\ 42 \end{array}$$

485 ÷ 11 becomes

$$\begin{array}{r} 44r1 \\ 11 \overline{) 485} \\ \underline{44} \\ 485 \\ \underline{440} \\ 45 \end{array}$$

37 x 26 becomes

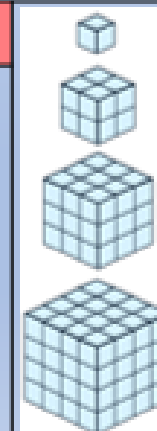
$$\begin{array}{r} 37 \\ \times 26 \\ \hline 202 \\ 740 \\ \hline 962 \end{array}$$

134 x 27 becomes

$$\begin{array}{r} 134 \\ \times 27 \\ \hline 938 \\ 2680 \\ \hline 3618 \end{array}$$

Square and cubed numbers

$$\begin{aligned} 1^2 &= 1 \times 1 = 1 \\ 2^2 &= 2 \times 2 = 4 \\ 3^2 &= 3 \times 3 = 9 \\ 4^2 &= 4 \times 4 = 16 \\ 5^2 &= 5 \times 5 = 25 \\ 6^2 &= 6 \times 6 = 36 \\ 7^2 &= 7 \times 7 = 49 \\ 8^2 &= 8 \times 8 = 64 \\ 9^2 &= 9 \times 9 = 81 \\ 10^2 &= 10 \times 10 = 100 \end{aligned}$$



1 is the first cube number, because $1 \times 1 \times 1 = 1$

8 is the second cube number, because $2 \times 2 \times 2 = 8$

27 is the third cube number, because $3 \times 3 \times 3 = 27$

64 is the fourth cube number, because $4 \times 4 \times 4 = 64$



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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

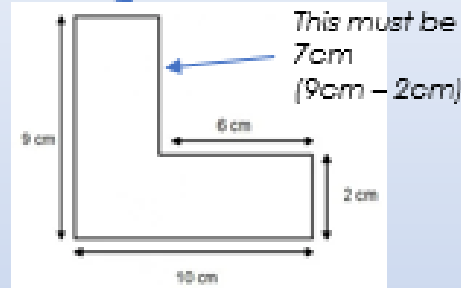
1 mile = 1.6 km
1 yard = 9.1 m
1 foot = 30 cm
1 inch = 2.54 cm

1 lb (pound) = 0.45 kg

1 pint = 0.57 litre

Perimeter

This must be 4 cm (10cm – 6cm)



3D Shapes

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

Examples



sphere



cone



cylinder



cube

Prisms



triangular prism



square prism



rectangular prism



pentagonal prism



hexagonal prism



octagonal prism

Pyramids



triangular pyramid



square pyramid



rectangular pyramid



pentagonal pyramid



hexagonal pyramid



octagonal pyramid

Platonic solids



tetrahedron



cube



octahedron

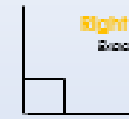


dodecahedron



icosahedron

Angles



Right angle
Exactly 90°

Straight line
= 180°



Complete turn
= 360°



Acute angle
Less than 90°



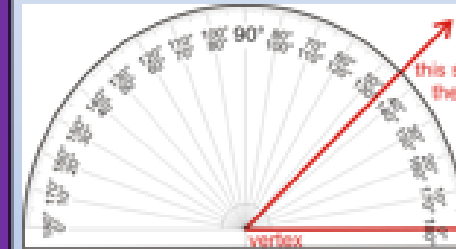
Obtuse angle
Between 90° and 180°



Reflex angle
greater than 180°



Using a protractor



this side intersects the protractor at 45°

this side lines up with 0° on the top scale or counter clockwise use the top scale to measure the angle

Roman Numerals

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

Dates

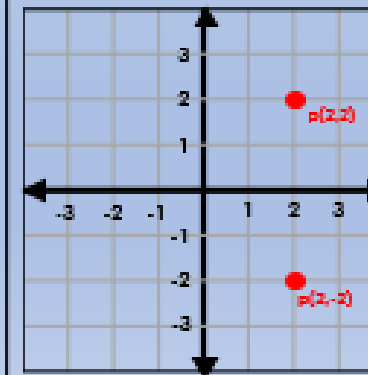
2020 = MMXX
2021 = MMXXI
2022 = MMXXII
2023 = MMXXIII
2024 = MMXXIV

1066 = MLXVI

1939 = MCMXXXIX

Coordinates

P has been reflected in the x axis



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

