



Year 5 Knowledge Mat



Place Value	Tens	Ones	.	Tenths	Hundredths	Thousandths
36.7	3	6	.	7		
3.67		3	.	6	7	
0.367		0	.	3	6	7

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

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

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

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

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 $1 \times 1 \times 1 = 1$

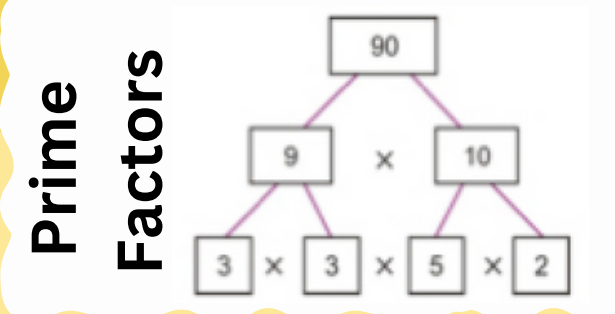
8 is the second cube number, because $2 \times 2 \times 2 = 8$

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

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

Formal Methods of Multiplication and Division

<p>3741 x 6 becomes</p> <pre> 3 7 4 1 X 6 ----- 2 2 4 4 6 4 2 </pre>	<p>485 ÷ 11 becomes</p> <pre> 4 4 r1 11 4 8 5 4 4 --- 4 4 4 4 --- 0 0 </pre>	<p>34 x 26 becomes</p> <pre> 3 4 X 2 6 ---- 6 8 0 2 0 4 ---- 8 8 4 </pre>	<p>134 x 27 becomes</p> <pre> 1 3 4 X 2 7 ---- 2 6 8 0 9 3 8 ---- 3 6 1 8 1 1 </pre>
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Mixed Number -> Improper Fraction

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

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

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

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

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

$\frac{1}{2} = 0.5 = 50\%$ $\frac{1}{4} = 0.25 = 25\%$
 $\frac{1}{5} = 0.2 = 20\%$ $\frac{2}{5} = 0.4 = 40\%$



Measures



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



1 kg = 1000 g



1 l = 1000 ml

Imperial measures

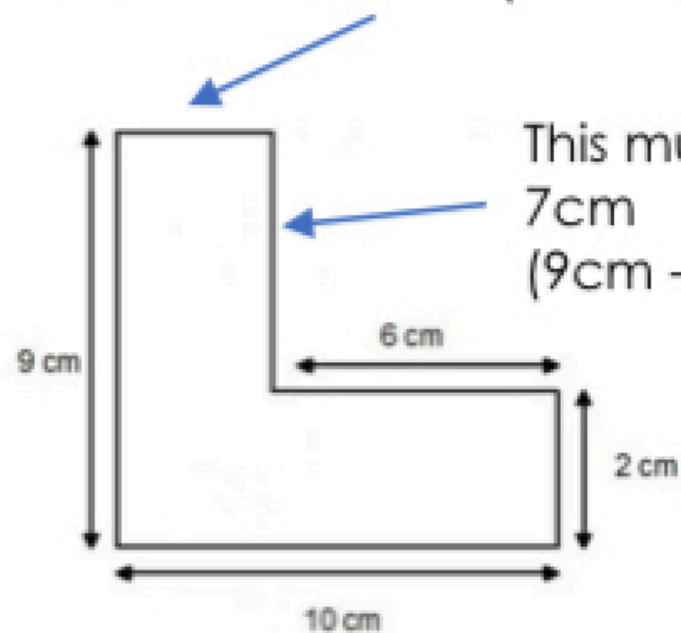
1 mile = 1.6 km
 1 yard = 0.91 m
 1 foot = 30 cm
 1 inch = 2.54 cm

1 lb (pound) = 0.45 kg

1 pint = 0.57 litre

Perimeter

This must be 4 cm (10cm - 6cm)



This must be 7cm (9cm - 2cm)

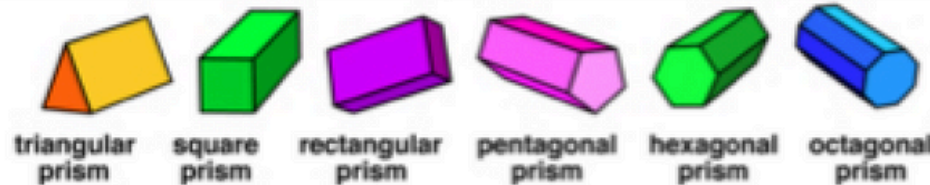
3D Shapes

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

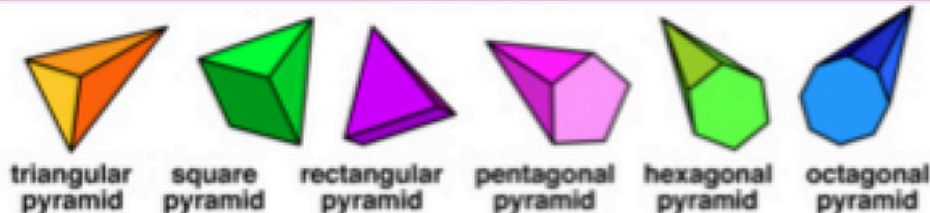
Examples



Prisms



Pyramids



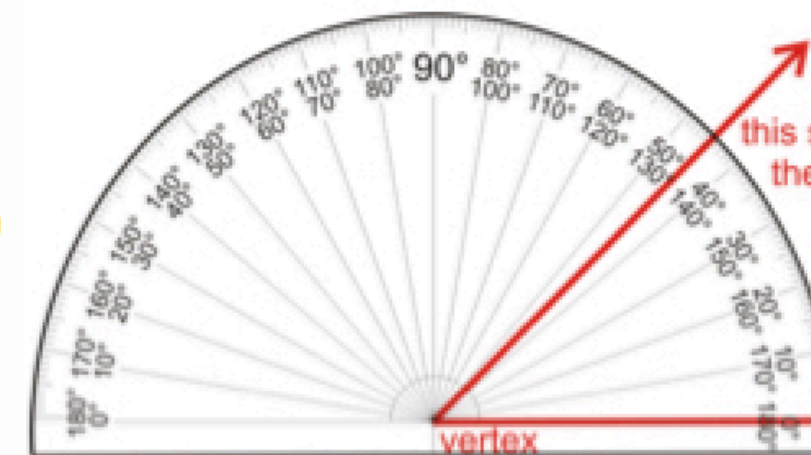
Platonic solids



Roman Numerals

Symbol	Value	Dates
I	1	2020 = MMXX
V	5	2021 = MMXXI
X	10	2022 = MMXXII
L	50	2023 = MMXXIII
C	100	2024 = MMXXIV
D	500	1066 = MLXVI
M	1000	1939 = MCMXXXIX

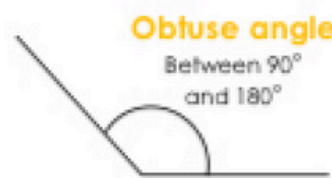
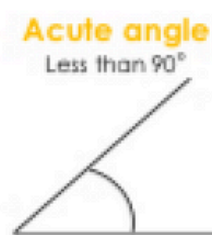
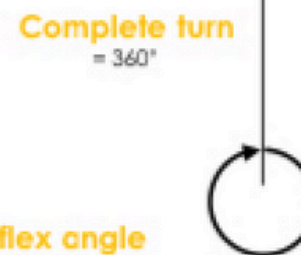
Protractors



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

Angles



Co-ordinates

