



Essential Maths Facts for Year 4

At our school, by the end of Year 4 you need to know:

Number

- ✓ Halves of odd numbers from 10 to 20:
 - half of 11 = $5\frac{1}{2}$
 - half of 13 = $6\frac{1}{2}$
 - half of 15 = $7\frac{1}{2}$
 - half of 17 = $8\frac{1}{2}$
 - half of 19 = $9\frac{1}{2}$
- ✓ A square number is created by multiplying two numbers the same together.
- ✓ As an example of notation, $4^2 = 4 \times 4$.
- ✓ The first twelve square numbers are: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144
- ✓ A **multiple of a number** is the result of multiplying that number with a whole number, e.g. $3 \times 2 = 6$ so 6 is a multiple of 3 and of 2
- ✓ A **factor of a number** is any whole number that divides into it exactly, e.g. the factors of 12 are 1, 2, 3, 4, 6 and 12.
- ✓ Making 100: $5 \times 20 = 100$ $4 \times 25 = 100$

Roman Numerals

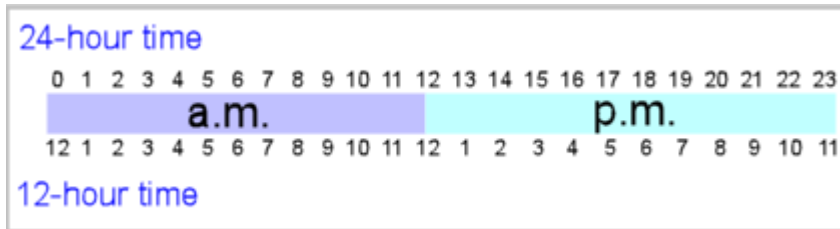
XL = 40	C = 100
L = 50	CX = 110
LX = 60	L = 500
XC = 90	M = 1000

Fractions

- ✓ Fraction, decimal and percentage equivalence:
 - 1 whole = 100%
 - $\frac{1}{2} = 0.5 = 50\%$
 - $\frac{1}{4} = 0.25 = 25\%$
 - $\frac{3}{4} = 0.75 = 75\%$
 - $\frac{1}{10} = 0.1 = 10\%$
 - $\frac{1}{100} = 0.01 = 1\%$




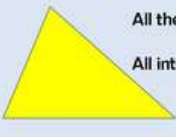
Time

- ✓ 12 noon is 12pm.
- ✓ 12 midnight is 12am.
- ✓ There are sixty seconds in a minute.
- ✓ 120 minutes = 2 hours.
- ✓ 180 minutes = 3 hours.
- ✓ There are 10 years in a decade.
- ✓ Conversions between 12- and 24-hour time:









Shape

Types of Triangles

<p>Equilateral triangle</p>  <p>All sides the same length All internal angles the same</p>	<p>Isosceles triangle</p>  <p>2 sides the same length 2 internal angles the same</p>
<p>Right-Angled triangle</p>  <p>1 internal angles that is 90° Can be either scalene or isosceles as well</p>	<p>Scalene triangle</p>  <p>All the different length All internal angles different</p>









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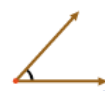

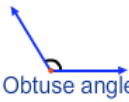

Types of Quadrilateral

<p>square</p>  <p>4 right angles 4 equal sides Opposite sides are parallel All sides the same length</p>	<p>rhombus</p>  <p>0 right angles 4 equal sides Opposite sides are parallel All sides the same length</p>	<p>kite</p>  <p>0 right angles 2 sets of equal sides No sides are parallel 2 pairs of sides the same length</p>
<p>rectangle</p>  <p>4 right angles 4 equal sides Opposite sides are parallel Opposite sides the same length</p>	<p>parallelogram</p>  <p>0 right angles 2 sets of equal sides Opposite sides are parallel Opposite sides the same length</p>	<p>trapezium</p>  <p>0 right angles 2 sets of equal sides 1 set of sides are parallel sides can be any length</p>

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Properties of 3D shapes

<p>Cone</p>  <p>2 Faces 1 Edge 1 Vertex</p>	<p>Sphere</p>  <p>1 Face 1 Edge 0 Vertices</p>	<p>Tetrahedron</p>  <p>4 Faces 6 Edges 4 Vertices</p>	<p>Cuboid</p>  <p>6 Faces 12 Edges 8 Vertices</p>
<p>Cylinder</p>  <p>3 Faces 2 Edges 0 Vertices</p>	<p>Cube</p>  <p>6 Faces 12 Edges 8 Vertices</p>	<p>Triangular Prism</p>  <p>5 Faces 9 Edges 6 Vertices</p>	<p>Square-based pyramid</p>  <p>5 Faces 8 Edges 5 Vertices</p>

 <p>Acute angle</p> <p>An angle which measures more than 0°, but less than 90°.</p>	 <p>Right angle</p> <p>An angle which measures exactly 90°.</p>
 <p>Obtuse angle</p> <p>An angle which measures more than 90°, but less than 180°.</p>	 <p>Straight angle</p> <p>An angle which measures exactly 180°.</p>