Year 7 Factsheet Term 1

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Primes

The 1st prime is 2
The 2nd prime is 3
The 3rd prime is 5
The 4th prime is 7
The 5th prime is 11
The 6th prime is 13
The 7th prime is 17
The 8th prime is 19
The 9th prime is 23
The 10th prime is 29

Squares and Roots

$1^2 = 1$	$\sqrt{1} = 1$
$2^2 = 4$	$\sqrt{4} = 2$
$3^2 = 9$	$\sqrt{9} = 3$
$4^2 = 16$	$\sqrt{16} = 4$
$5^2 = 25$	$\sqrt{25} = 5$
$6^2 = 36$	$\sqrt{36} = 6$
$7^2 = 49$	$\sqrt{49} = 7$
$8^2 = 64$	$\sqrt{64} = 8$
$9^2 = 81$	$\sqrt{81} = 9$
$10^2 = 100$	$\sqrt{100} = 10$
$11^2 = 121$	$\sqrt{121} = 11$
$12^2 = 144$	$\sqrt{144} = 12$
$13^2 = 169$	$\sqrt{169} = 13$
$14^2 = 196$	$\sqrt{196} = 14$
$15^2 = 225$	$\sqrt{225} = 15$

Cubes

$1^3 = 1$
$2^3 = 8$
$3^3 = 27$
$4^3 = 64$
$5^3 = 125$

Cube Root

$\sqrt[3]{1} = 1$
$\sqrt[3]{8} = 2$
$\sqrt[3]{27} = 3$
$\sqrt[3]{64} = 4$
$\sqrt[3]{125} = 5$

Prime Decomposition

Any number can be written as a product of primes:

$$24 = 2 \times 2 \times 2 \times 3$$

Highest Common Factor (HCF)

The HCF of two numbers is the largest value that divides into both with no remainder.

The HCF of 12 and 24 is 6.

Lowest Common Multiple

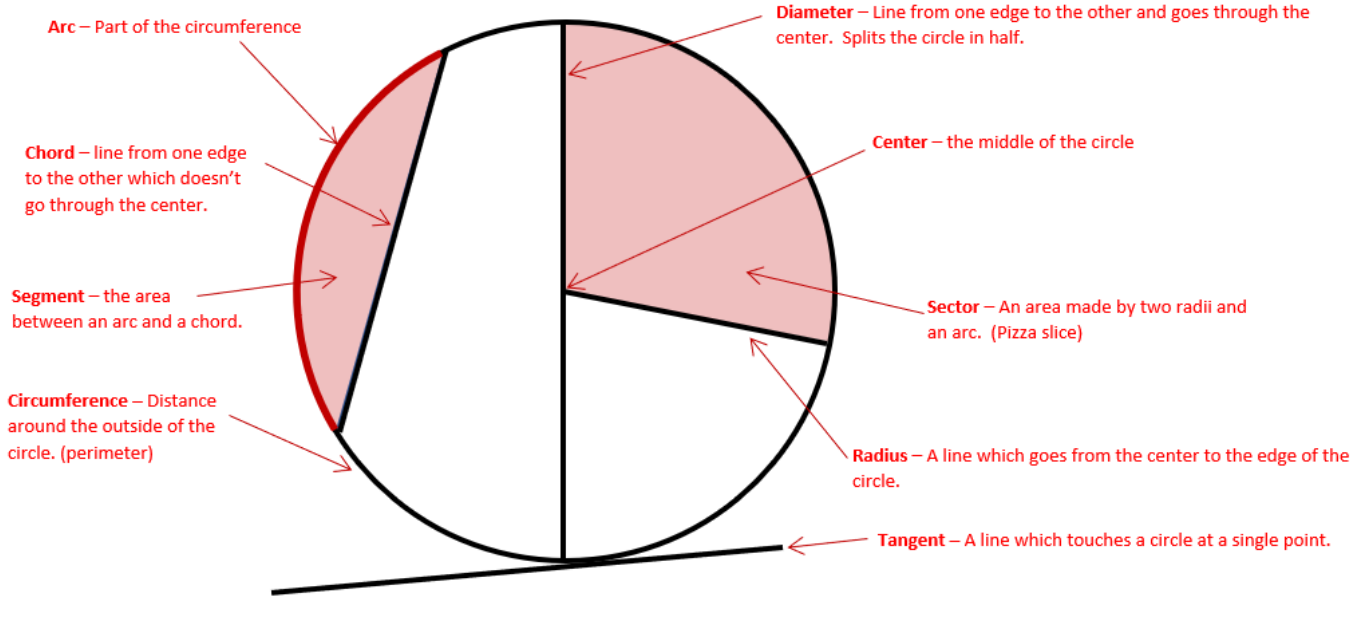
The lowest common multiple of two numbers is the lowest value they will both divide into with no remainder.

The LCM of 6 and 8 is 24.

Fraction, Decimal and Percentage Conversions

$\frac{1}{2} = 0.5 = 50\%$
$\frac{1}{3} = 0.33333\ldots = 33.\dot{3}\%$
$\frac{2}{3} = 0.66666\ldots = 66.\dot{6}\%$
$\frac{1}{4} = 0.25 = 25\%$
$\frac{3}{4} = 0.75 = 75\%$
$\frac{1}{5} = 0.2 = 20\%$
$\frac{2}{5} = 0.4 = 40\%$
$\frac{3}{5} = 0.6 = 60\%$
$\frac{4}{5} = 0.8 = 80\%$
$\frac{1}{8} = 0.125 = 12.5\%$
$\frac{3}{8} = 0.375 = 37.5\%$
$\frac{5}{8} = 0.625 = 62.5\%$
$\frac{7}{8} = 0.875 = 87.5\%$
$\frac{1}{10} = 0.1 = 10\%$
$\frac{3}{10} = 0.3 = 30\%$
$\frac{7}{10} = 0.7 = 70\%$
$\frac{9}{10} = 0.9 = 90\%$
$\frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \cdots = 1 = 100\%$
$\frac{1}{100} = 0.01 = 1\%$
$\frac{1}{20} = 0.05 = 5\%$

Parts of the circle



Year 7 Term 1 Key Words and Definitions

Prime Number	A number which only has two factors. These will always be the number itself and 1. **Note**: 1 does not count as it only has 1 factor.
Factor	The factors of a number divide into it exactly. For example 3 is a factor of 12 as $12 \div 3 = 4$, but 5 would not as $12 \div 5 = 2.4$
Multiple	The multiples of a number are the stations of its timestable. The multiples of 5 are: $5, 10, 15, 20, 25, 30, 35 \ldots$
Integer	A positive or negative whole number.
Fraction	A part of a number
Equivalent Fraction	Fractions which have the same meaning but different numbers. $\frac{1}{2}$ is fractionally equivalent to $\frac{2}{4}$.
Numerator	Top number of a fraction.
Denominator	Bottom number of a fraction.
Mixed Number	A number written as a mixture of a whole number and a fraction. E.g. $3\frac{1}{2}$
Proper Fraction	Where the numerator is less than the denominator. E.g. $\frac{1}{2}$
Improper Fraction	Where the numerator is greater than the denominator. Sometimes called a **top heavy fraction** or a **vulgar fraction**. E.g. $\frac{3}{2}$
Percentage	A fraction out of 100
Reflect	The shape is mirrored against a line. Often called the line of reflection.
Rotational Symmetry	The number of times in a full turn that a shape repeats.
Expression	A chunk of algebra e.g. $3x + 6y - 4z$
Term	Terms make an expression. They are the parts between the + and – signs. In the expression $3x + 6y - 4z$ the terms would be $3x, 6y$ and $-4z$.
Variable	A letter used to represent a number. Usually an x or y.
Like Terms	Terms which have the same letter. Note x^2 and x would not be like terms.
Simplify	Make something smaller and easier to understand. In algebra this means to make an expression smaller by collecting like terms. In fractions it means to write the fraction with the smallest denominator.
Substitute	Replace the variables in an expression and calculate a solution.
Solve	Find a numerical answer for a variable