Multiplication and Division

Key Vocabulary

Commutative — A calculation that gives the same answer in either order

Quotient — The answer when one number is divided by another

Integer — A whole number

Lowest Common Multiple —The first multiple of two or more numbers that appear for both

Highest Common Factor — The largest number that will divide exactly into two or more other numbers

Divisor — A number that another number is divided by

Dividend — The number which is to be divided

Mean — When you share out the total of some numbers between how many there are

Median — The middle number of a set of values when they are in order

Range —The highest value subtracted from the lowest value

Perpendicular — Two lines that are at 90° to each other

Multiplying Algebraic Expressions

- $3 \times x = 3x$
- $4x \times 2y = 8xy$
- $3y \times 3y = 9y^2$
- $6x \div 3 = \frac{6x}{3} = 2x$
- $4k^2 \div 2k = \frac{4k^2}{2k} = 2k$

Area of triangles and trapeziums

Area of a triangle = $\frac{b \times h}{2}$

Area of a trapezium = $\frac{1}{2}(a + b)$

Dividing by a decimal

Multiplying both the dividend and the divisor by 10 until you are dividing by a whole number

x10

12 ÷ 0.3 = 40

120 ÷ 3 = 40

As you have multiplied both the divisor and dividend by 10, the answer does not have to be adjusted.

Averages and Spread

Mean

2, 7, 3

Total = 2+ 7 + 3 = 12

12 ÷ 3 = 4

Median

5, 7, **9**, 11, 13

4, 6, 7, 12

6.5

If you have an even number of values, find the value that would lie between the two middle values.

Range 3, 5, 7, 9

9—3 = 6

Multiplying by a decimal

60 x 0.1 = 60 × $\frac{1}{10}$ = 6

$\times$ *by* $\frac{1}{10}$ *is the same as* $\div$ *by* 10