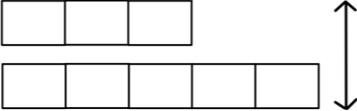
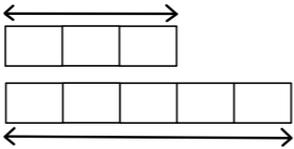


# MATHEMATICS - YEAR 7 - BLOCK 3

## A RATIO AND PROPORTION

1	Direct proportion	When one quantity increases, the other quantity increases <b>at the same rate</b>
2	Ratio	A way of comparing two or more quantities. Ratios are written as numbers separated by a colon : For example, 2 : 5
3	Simplifying ratio	A ratio is in its simplest form when the <b>highest common factor</b> of the numbers is 1
4	Dividing in a ratio	Label the total across all boxes 
5	Using one quantity in a ratio to find another	Label the quantity next to the correct box 
6	Proportion	A proportion compares a part with a whole. You can write proportions as a fraction, decimal or percentage.

## B LINES AND ANGLES

1	Acute angle	An angle smaller than $90^\circ$
2	Obtuse angle	An angle between $90^\circ$ and $180^\circ$
3	Reflex angle	An angle between $180^\circ$ and $360^\circ$
4	Angles on a straight line	Add up to $180^\circ$
5	Angles around a point	Add up to $360^\circ$
6	Vertically opposite angles	Are equal
7	Angles in a triangle	Add up to $180^\circ$
8	Angles in a quadrilateral	Add up to $360^\circ$

## C SEQUENCES AND GRAPHS

1	Term-to-term rule	A rule that tells you how to get from one term to the next in a sequence. It can use adding, subtracting, multiplying or dividing.
2	Ascending sequence	The numbers are increasing (going up)
3	Descending sequence	The numbers are decreasing (going down)
4	Coordinates	Coordinates are written in the form (x, y)
5	Midpoint of a line segment	The point exactly in the middle of the line
6	Arithmetic sequence	A sequence that goes up or down in equal steps e.g. 4, 7, 10, 13, 16...
7	Fibonacci sequence	A special sequence where the next term is found by adding the two previous terms together e.g. 1, 1, 2, 3, 5, 8, 13...
8	Geometric sequence	A sequence which has the term-to-term rule 'multiply or divide by a number' e.g. 1, 2, 4, 8, 16...
9	Using the nth term to find any term	To use the sequence $5n + 1$ to find the 10 <sup>th</sup> term, substitute $n = 10$ . e.g. $5(10) + 1 = 51$
10	Finding the nth term of a sequence e.g. 5, 8, 11, 14, 17...	Identify the common difference (3) and write out the times table:  $3, 6, 9, 12, 15... = 3n$  Identify if each term in the sequence is more or less than the times table and by how much:  $5, 8, 11, 14, 17... = 3n + 2$
11	$y = 5$	Means the y coordinate is always 5. <b>Lines of the form <math>y = a</math> are horizontal</b>
12	$x = 2$	Means the x coordinate is always 2. <b>Lines of the form <math>x = a</math> are vertical</b>