

YEAR 7

EMERGING

SECURING

DEEPENING

MASTERING

Calculation and Negatives

Fluency

- Know the main divisibility laws
- Multiply and divide integers by powers of 10
- Divide by numbers where there is a remainder
- Be able to use the number line to add and subtract with negative numbers
- Be able to calculate square numbers and know that square roots are the inverse
- Know some of the basic properties of operations
- Know the priority of operations and use them on problems involving sums and products.

- Know all the divisibility laws
- Multiply and divide all numbers by powers of 10
- Express a remainder as a fraction or a decimal
- Be able to use counters to add and subtract with negative numbers
- Be able to calculate squares and cubes and know that roots are the inverse
- Know the basic properties of all operations (commutativity, etc.)
- Calculate the reciprocal of a number
- Know and use the priority of operations on multi-step problems including indices.

- Know all the divisibility laws and use them to reason about multiples and factors
- Multiply and divide numbers by multiples of 10
- Express a remainder as a fraction and a decimal
- Be able to add and subtract negatives with and without counters
- Be able to calculate squares and cubes and higher powers and know that roots are the inverse. Know some key squares and their roots.
- Know and understand the properties of commutativity, associativity, distributivity.
- Know and use accurately the priority of operations, on multi-step problems including indices
- Recognise different groupings (e.g. brackets, fractions...)

- Know all the divisibility laws and use them to reason about multiples and factors
- Be able to convert a given calculation into an equivalent calculation using knowledge of multiplying and dividing by multiples of 10.
- Express a remainder as a fraction and a decimal
- Perform all 4 calculations with negative numbers
- Know many squares, cubes and higher powers and their roots.
- Know and understand the properties of commutativity, associativity, distributivity and use them to rewrite calculations in different ways.
- Know and use accurately the priority of operations on multi-step problems including with indices and groupings.

Revision

Reflect on how well you prepared for this assessment:

Fluency score: /20

Target

Identify an area that you would like to improve on in future:

This target is: Met
 Ongoing

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Algebra	Fluency	<ul style="list-style-type: none"> <input type="checkbox"/> Know the language and notation of algebra <input type="checkbox"/> Simplify expressions by adding/subtracting and by multiplying terms <input type="checkbox"/> Expand a single bracket <input type="checkbox"/> Substitute variables into simple expressions <input type="checkbox"/> Identify the common factor in two or more terms <input type="checkbox"/> Solve one or two-step equations by balancing 	<ul style="list-style-type: none"> <input type="checkbox"/> Know and use correctly the language and notation of algebra <input type="checkbox"/> Simplify expressions by adding/subtracting and by multiplying terms, including with brackets <input type="checkbox"/> Substitute negative or fractional variables into expressions <input type="checkbox"/> Factorise a number out a bracket <input type="checkbox"/> Solve multi-step equations by balancing, including with fractions or brackets 	<ul style="list-style-type: none"> <input type="checkbox"/> Know and use correctly the language and notation of algebra <input type="checkbox"/> Simplify expressions by adding/subtracting and by multiplying/dividing terms, including with brackets or with indices <input type="checkbox"/> Substitute multiple variables into expressions <input type="checkbox"/> Fully factorise a number out of a bracket <input type="checkbox"/> Solve multi-step equations with the unknown on both sides, including with fractions or brackets 	<ul style="list-style-type: none"> <input type="checkbox"/> Know and use correctly the language and notation of algebra <input type="checkbox"/> Simplify expressions by adding/subtracting and by multiplying/dividing terms, including with brackets and with indices <input type="checkbox"/> Substitute multiple variables into more complex expressions <input type="checkbox"/> Fully factorise numerical terms out of a bracket <input type="checkbox"/> Set up and solve multi-step equations with the unknown on both sides, including with fractions or brackets, in order to solve a problem in context. 	
	Revision	Reflect on how well you prepared for this assessment:				Fluency score: /20
	Target	Identify an area that you would like to improve on in future:				This target is: <input type="checkbox"/> Met <input type="checkbox"/> Ongoing

Angles	Fluency	<ul style="list-style-type: none"> <input type="checkbox"/> Estimate and measure acute and obtuse angles <input type="checkbox"/> Recognise most of the labelling conventions in geometry <input type="checkbox"/> Know the basic angle properties in triangles and quadrilaterals 	<ul style="list-style-type: none"> <input type="checkbox"/> Estimate, draw and measure acute and obtuse angles <input type="checkbox"/> Recognise and use the main labelling conventions in geometry <input type="checkbox"/> Know and use the specific angle properties in named triangles and quadrilaterals <input type="checkbox"/> Know what is meant by interior and exterior angles of a polygon 	<ul style="list-style-type: none"> <input type="checkbox"/> Estimate, draw and measures all types of angles <input type="checkbox"/> Recognise and use labelling conventions in geometry <input type="checkbox"/> Use knowledge of angle properties to find missing angles in or to classify triangles and quadrilaterals <input type="checkbox"/> Know the properties of interior and exterior angles of a polygon and use them to find unknown angles. 	<ul style="list-style-type: none"> <input type="checkbox"/> Estimate, draw and measures all types of angles to a good degree of accuracy. <input type="checkbox"/> Recognise and use labelling conventions in geometry <input type="checkbox"/> Use knowledge of angle properties to find missing angles in or to classify triangles and quadrilaterals, explaining your reasoning. <input type="checkbox"/> Know the properties of interior and exterior angles of a polygon and use them to classify polygon and find unknown angles. 	
	Revision	Reflect on how well you prepared for this assessment:				Fluency score: /20
	Target	Identify an area that you would like to improve on in future:				This target is: <input type="checkbox"/> Met <input type="checkbox"/> Ongoing

YEAR 7**EMERGING****SECURING****DEEPENING****MASTERING****Decimals and Rounding****Fluency**

- Know the decimal place value headings and compare two decimal values with the same number of decimal places
- Round values to the nearest integer or to one significant figure
- Estimate simple calculations by rounding to one significant figure first

- Compare two decimal values with a different number of decimal places
- Round values to a given number of decimal places, and to one significant figure
- Estimate calculations by rounding to one significant figure first

- Order and compare multiple decimal values
- Round values to a given number of decimal places or significant figures
- Estimate calculations by rounding to one significant figure first
- Identify error intervals

- Order and compare multiple decimal values
- Round values to a given number of decimal places or significant figures, including values smaller than 1.
- Estimate calculations by rounding to one significant figure first. State whether the estimate will be an over- or under-estimation.
- Identify error intervals

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 Ongoing

Fractions**Fluency**

- Recognise the difference between unit fractions, proper fractions, improper fractions and mixed numbers
- Multiply fractions by other simple fractions
- Add and subtract fractions with equal denominators
- Compare fractions with equal denominators
- Simplify fractions
- Find unit fractions of an amount

- Convert fractions from improper fractions into mixed numbers
- Multiply fractions by other fractions and integers
- Add or subtract fractions with denominators that are multiples of each other
- Compare fractions with equal numerators or equal denominators
- Find any fraction of an amount
- Express a number as a fraction of another number

- Convert between mixed numbers and improper fractions in both
- Multiply and divide fractions
- Add or subtract fractions with different denominators
- Convert fractions into equivalent fractions to compare values
- Find the original number when given a fraction of that amount

- Fluently convert between mixed numbers, improper fraction and decimals using division.
- Multiply and divide fractions and mixed numbers
- Add and subtract mixed numbers
- Compare fractions and order their values (using strategies such as comparing to half, one, etc.)
- Understand the process of multiplying and dividing by a fraction

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Percentages	Fluency	<input type="checkbox"/> Find the percentage of a quantity <input type="checkbox"/> Convert between fractions, decimals and percentages using a calculator	<input type="checkbox"/> Increase/decrease an amount by a percentage <input type="checkbox"/> Convert between fractions, decimals and percentages without using a calculator	<input type="checkbox"/> Find the percentage of a quantity using a multiplier <input type="checkbox"/> Calculate a percentage change	<input type="checkbox"/> Increase/decrease an amount by a percentage using a multiplier <input type="checkbox"/> Calculate the original amount after a percentage change	
	Revision	Reflect on how well you prepared for this assessment:				Fluency score: /20
	Target	Identify an area that you would like to improve on in future:				This target is: <input type="checkbox"/> Met <input type="checkbox"/> Ongoing

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Reasoning	Describe and explain	I can... <input type="checkbox"/> Describe some of the stages in a method	I can... <input type="checkbox"/> Describe a complete mathematical method <input type="checkbox"/> Explain some of the steps in a method (i.e. why do you perform a particular step?)	I can... <input type="checkbox"/> Describe a complete method using correct mathematical vocabulary	I can... <input type="checkbox"/> Use correct mathematical vocabulary to explain why a particular method works
	Understand mistakes	I can... <input type="checkbox"/> Identify and correct mistakes in a worked solution	I can... <input type="checkbox"/> Explain how I know an answer in a worked solution is incorrect	I can... <input type="checkbox"/> Identify the misconception behind an incorrect answer (i.e. explain why the mistake was made)	I can... <input type="checkbox"/> Create a worked example that demonstrates a common misconception
Problem Solving	Vocabulary & notation	I can... <input type="checkbox"/> Highlight some key words and mathematical facts	I can... <input type="checkbox"/> Highlight all the necessary key words and mathematical facts	I can... <input type="checkbox"/> Find connections between the highlighted information	I can... <input type="checkbox"/> Interpret key mathematical terms correctly to find the right connection.
	Diagrams	I can... <input type="checkbox"/> Label a given diagram or representation with at least one piece of relevant information	I can... <input type="checkbox"/> Draw a useful diagram/representation to help me with the problem	I can... <input type="checkbox"/> Make use of my diagram/representation to solve a problem	I can... <input type="checkbox"/> Use diagrams or representations to simplify more complex problems
	Written communication	I show in my workings... <input type="checkbox"/> A visible correct first step to solving the problem	I show in my workings... <input type="checkbox"/> More than one correct logical step to solve the problem	I use... <input type="checkbox"/> A logical order in my workings, which make it easy for the reader to follow my solution	I use... <input type="checkbox"/> Correct mathematical notation throughout
	Devise a plan	I can... <input type="checkbox"/> Identify the area of maths required to solve the problem	I can... <input type="checkbox"/> Identify all the areas of maths required to solve a problem	I can... <input type="checkbox"/> Devise a plan that shows progression through a problem	I can... <input type="checkbox"/> Devise the most efficient plan or refine a plan as I go
	Check and reflect	I have... <input type="checkbox"/> Checked I haven't made a silly mistake	I look... <input type="checkbox"/> For errors and can correct them	I can... <input type="checkbox"/> Check that the size of my answer makes mathematical sense	I can... <input type="checkbox"/> Produce and evaluate multiple methods for solving a problem
	Independence	I need... <input type="checkbox"/> Help to get started	I can... <input type="checkbox"/> Get started by myself	I can... <input type="checkbox"/> Get most of the way through a complex problem unaided	I can... <input type="checkbox"/> Complete a complex problem unaided