Year 10 Mathematics (10MBE and 10ML) Winter Examination Checklist

Students should be able to:	For example: Evaluate $3^2 \times 2^3$
 use index notation and index laws for whole number powers; 	Know that $2^3 \times 2^4 = 2^7$ $4^5 \div 4^2 = 4^3$ $(3^2)^4 = 3^8$
 use the concepts and vocabulary of divisor, highest common factor, least (lowest) common multiple and prime factor decomposition; 	 Find the Highest Common Factor (HCF) and Lowest Common Multiple (LCM) of two whole numbers. Know that there is a unique way of writing a number as a product of prime factors. Express, for example: 147 as 3 × 7 × 7 or 3 × 7²
 add, subtract, multiply and divide decimals of any size; 	Add, subtract, multiply and divide any numbers, including negative numbers and fractions.
 round to a specified or appropriate number of significant figures; 	
 recognise that recurring decimals are exact fractions and that some exact fractions are recurring decimals; 	Use division to convert a simple fraction to a decimal e.g. $\frac{1}{6} = 0.16$
 add, subtract, multiply and divide fractions, including mixed numbers 	For example: Work out $3\frac{1}{5}+2\frac{3}{4}$
 use percentage and repeated proportional change; 	For example, calculate how much the value of a car has depreciated after 3 years.
 calculate with money and solve problems in the context of finance, for example compound interest, insurance, taxation, mortgages and investments; 	Calculation of compound interest is restricted to a maximum of three iterations.

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 simplify and r algebraic expr 	nanipulate For examp ressions by	le: x (2x +3)= 2x2+ 3x
over a bracket	;;	x (2x +3)= 2x2+ 3x
 manipulate algebra expressions by out common f which are terr 	gebraic Know that y taking x ² – 3x = x(actors ns;	, for example x – 3) and vice versa.
 set up and sole equations in or unknown. 	ve linear Use algebr ne then add 1	a to solve a problem such as 'If I double a number, and the result is 49, what is the number?'
 find the midpo length of a line 2D coordinate 	pint and Application e given in s;	n of Pythagoras' theorem.
 find and interpretent of linear gradients and of linear graph example plot a interpret the gradient of hir £40 per day pl mile; 	oret intercepts ns, for and graph of ing a car at lus 20p per	le: ows the cost of hiring a plumber. Identify the y- is the call out charge and the gradient as the cost per