Year 10 Maths Learning Journey

Summer Term 2

Using Number: Non calculator methods

Core knowledge	Reference number
Mental/written methods of integer/decimal addition and subtraction (R) "What strategies do you know to add/subtract numbers mentally?"	WORKSHEET
Mental/written methods of integer/decimal multiplication and division "What strategies do you know to multiply numbers mentally?"	WORKSHEET
The four rules of fraction arithmetic (R) "Can you draw a picture to show how fraction multiplication works?"	WORKSHEET
Exact answers "Is it okay to give the solution as a fraction rathe than a decimal? Why or why not?"	WORKSHEET
Rational and irrational numbers (H) "Do all linear equations have rational solutions? Why or why not?"	WORKSHEET
Understand and use surds (H) "How ca you tell if a square root of an integer less than 100 will be a surd or not?"	WORKSHEET
Calculate with surds (H) When is it possible to simplify surd expressions involving addition and subtraction, and when is it not possible?"	WORKSHEET
Rounding to decimal places and significant figures (R) "What's the difference between decimal places and significant figures?"	WORKSHEET
Estimating answers to calculations (R) "Why do you need to be careful when rounding decimals when making estimates?"	WORKSHEET
Understand and use limits of accuracy "What numbers might be truncated to give 4.6 to 1 decimal place? Why is 4.599 not a possible value?"	WORKSHEET
Upper and lower bounds (H) "If we want (e.g.) ab to be as large as possible, do the values of a and b also need to be as large as possible?"	WORKSHEET
Use number sense "What are useful pairs of factors to look for in order to simplify a calculation?"	WORKSHEET
Solve financial maths problems "What is the first step you need to take to solve the problem?"	WORKSHEET
Break down and solve multi-step problems "What can we find out first? Given this new information, what can we find out next?"	WORKSHEET

Learning Checkpoints

LC Title	Completed	Dirt
Non calculator methods		

Key Vocabulary

Area: a measure of the size of any plane surface. Area is usually measured in square units e.g. square centimetres (cm2), square metres (m2).

Balance: An equation in balance maintains proportion

Cosine: This law is useful to find the missing information in any triangle.

Credit - money added into a bank account

Cube root: the number that needs to be multiplied three times to get the original number.

Debit: money taken out of a bank account

Denominator: In the notation of common fractions, the number written below the line

Improper fraction: a fraction where the numerator is greater than the denominator

Loss: the differences between the cost price and the selling price

Mixed number: a whole number and fractional part expressed as a common fraction

Numerator: in the notation of common fractions, the number written on the top – the dividend (the part that is divided).

Perimeter: the continuous line forming the boundary of a closed geometrical figure.

Profit: the money made after expenses

Reciprocal: The multiplicative inverse of any non-zero number

Recurring: a decimal fraction in which a figure or group of figures is repeated indefinitely, as in 0.666

Sine: the trigonometric function that is equal to the ratio of the side opposite a given angle (in a right-angled triangle) to the hypotenuse.

Square root:- A number whose square is equal to a given number

Surd: an irrational number expressed as the root of a natural number

Volume: the amount of space that a substance or object occupies, or that is enclosed within a container.