Gulf English School Term 1 IG1 Mathematics

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| TOPICS: Fractions, Decimals, Percentages, Sets, Angles in Polygons, Circle Theorems |

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| Themes: Types of number, Fraction/Percentage calculations, Sets, Angles in Polygons, Circle Theorems. | Level: IG1 |
| Objectives: To find the Lowest Common Multiple/Highest Common Factor. To know and use a definition of a prime/square number. To assess numbers according to relevant criteria as: real, rational, irrational, natural, integer. To recognize and synthesize equivalent fractions/improper fractions/mixed numbers. To convert between fractions, decimals and percentages. To convert a recurring decimal to a fraction. To calculate % of quantity & % Increase/Decrease. To use formulae to calculate interest Simple/Compound. To calculate reverse % Operations. To use a calculator to find Squares / Square Roots & Cubes / Cube Roots. To construct and use Venn diagrams for Sets. To use angle facts (and algebra) to find angles: in parallel lines/triangles/quadrilaterals/ polygons (regular/irregular): interior/exterior. To know parts of a circle. To use circle theorems to find unknown angles.  |

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| Focussing Questions | Key Words |
| **1. Types of number*** Key resources: Collins Cambridge IGCSE Chapter 1,2. Ex 1a – 2b,
* Always / Sometimes / Never: The lowest common multiple of two numbers is found by multiplying the two numbers together.
* Convince me that 109 is a prime number.
* What is the difference between a rational and irrational number?
	+ Assessment: Topic Test

**2. Fraction/Percentage calculations*** Key resource: Collins Cambridge IGCSE Chapter 2 , Ex 2c – 2i
* What is the same and what is different: 1/10 and 10% … 1/5 and 20%?
* Always/Sometimes/Never: To reverse an increase of x%, you decrease by x%
* Kenny calculates the % increase of £6 to £8 as 25%. Do you agree with Kenny? Explain your answer.
* Convince me that the multiplier for a 150% increase is 2.5.
	+ Assessment: Topic Test

**3. Fractions, Directed numbers, Squares, Cubes*** Key resources: Collins Cambridge IGCSE Chapter 3-5 Ex 3a – 5b
* What is $√100$? Is there another answer?
* What square numbers are also cube numbers? Can you explain why?
	+ Assessment: Topic Test

**4. Sets & Venn diagrams*** Key resources: Collins Cambridge IGCSE Chapter 6 Ex 6a – 6c
* Always /Sometimes /Never: All regions of a Venn diagram must be populated?
* Using set notation what is another way of saying AnA’?
	+ Assessment: Topic Test

**5-6. Angles facts: Polygons, Circle Theorems*** Key resources: Collins Cambridge IGCSE Chapter 22 Ex 22a – 22i
* Always/Sometimes/ Never:The sum of the exterior angles of a polygon is 360°?
* Convince me that the interior angle of a pentagon is 540°.
* How are some of the circle theorems related? Can you use one to derive another?
	+ Assessment: Topic Test

Assessment: Cumulative half term test | Real, Irrational, rational, Integer, Natural, HCF, LCM, Square (root), Cube (root), Reciprocal, Equivalent, Simplest form, Reverse percentage, Union, Intersection, Universal set, (Proper) subset, Venn Diagram, Intersection, Union, Polygon, Subtended, Arc, Chord, Cyclic quadrilateral | Explaining wordsMy rationale for … is…The definition of … states that… so…Therefore...The angle is… because an angle subtended by the same chord/arc… |

**TEXT BOOK: COLLINS CAMBRIDGE IGCSE**