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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Basic Number and Decimals** |
| 1. Integer | A **whole number** that can be positive, negative or zero. |  |
| 2. Decimal | A number with a **decimal point** in it. Can be positive or negative. |  |
| 3. Negative Number | A number that is **less than zero**. Can be decimals. |  |
| 4. Addition | To find the **total**, or **sum**, of two or more numbers.  ‘add’, ‘plus’, ‘sum’ |  |
| 5. Subtraction | To find the **difference** between two numbers.  To find out how many are left when some are taken away.  ‘minus’, ‘take away’, ‘subtract’ |  |
| 6. Multiplication | Can be thought of as **repeated addition**.  ‘multiply’, ‘times’, ‘product’ |  |
| 7. Division | Splitting into equal parts or groups.  The process of calculating the **number of times one number is contained within another one**.  ‘divide’, ‘share’ |  |
| 8. Remainder | The amount ‘**left over**’ after dividing one integer by another. | The remainder of is , because 6 divides into 20 exactly 3 times, with 2 left over. |
| 9. BIDMAS | An acronym for the **order** you should do calculations in.  BIDMAS stands for **‘Brackets, Indices, Division, Multiplication, Addition and Subtraction’**.  Indices are also known as ‘powers’ or ‘orders’.  With strings of division and multiplication, or strings of addition and subtraction, and no brackets, work from left to right. | , where the 2 is the index/power. |

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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Fractions** |
| 1. Fraction | A mathematical expression representing the **division** of one integer by another.  Fractions are written as **two numbers separated by a horizontal line**. | is a ‘proper’ fraction.  is an ‘improper’ or ‘top-heavy’ fraction. |
| 2. Numerator | The **top** number of a fraction. | In the fraction , 3 is the numerator. |
| 3. Denominator | The **bottom** number of a fraction. | In the fraction , 5 is the denominator. |
| 4. Unit Fraction | A fraction where the **numerator is one** and the denominator is a positive integer. | are examples of unit fractions. |
| 5. Reciprocal | The reciprocal of a number is **1 divided by the number**.  The reciprocal of is  **When we multiply a number by its reciprocal we get 1**. This is called the ‘multiplicative inverse’. | The reciprocal of is  The reciprocal of is , because |
| 6. Mixed Number | A number formed of both an **integer part** and a **fraction part**. | is an example of a mixed number. |
| 7. Simplifying Fractions | **Divide the numerator and denominator by the highest common factor**. |  |
| 8. Equivalent Fractions | Fractions which represent the **same value**. |  |
| 9. Comparing Fractions | To compare fractions, they each need to be rewritten so that they have a **common denominator**.  **Ascending** means **smallest to biggest**.  **Descending** means **biggest to smallest**. | Put in to ascending order : .  Equivalent:  Correct order: |
| 10. Fraction of an Amount | **Divide** by the **bottom**, **times** by the **top** | Find of £60 |
| 11. Adding or Subtracting Fractions | Find the **LCM of the denominators** to find a common denominator.  Use equivalent fractions to change each fraction to the **common denominator**.  Then just **add or subtract the numerators** and keep the **denominator the same**. | Multiples of 3: 3, 6, 9, 12, **15**..  Multiples of 5: 5, 10, **15**..  LCM of 3 and 5 = 15 |
| 12. Multiplying Fractions | **Multiply** the **numerators** together and **multiply** the **denominators** together. |  |
| 13. Dividing Fractions | **‘Keep it, Flip it, Change it – KFC’**  Keep the first fraction the same  Flip the second fraction upside down  Change the divide to a multiply  Multiply by the reciprocal of the second fraction. |  |

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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Basic Percentages** |
| 1. Percentage | **Number of parts per 100.** | means |
| 2. Finding 10% | To find **10%**, **divide by 10** | 10% of £36 = 36÷10=£3.60 |
| 3. Finding 1% | To find **1%**, **divide by 100** | 1% of £8 = 8÷100 = £0.08 |
| 4. Percentage Change |  | A games console is bought for £200 and sold for £250.  % change = |
| 5. Fractions to Decimals | **Divide the numerator by the denominator** using the bus stop method. |  |
| 6. Decimals to Fractions | **Write as a fraction** over 10, 100 or 1000 and simplify. |  |
| 7. Percentages to Decimals | **Divide by 100** |  |
| 8. Decimals to Percentages | **Multiply by 100** |  |
| 9. Fractions to Percentages | Percentage is just a fraction out of 100. **Make the denominator 100 using equivalent fractions**.  When the denominator doesn’t go in to 100, use a calculator and **multiply the fraction by 100**. |  |
| 10. Percentages to Fractions | Percentage is just a fraction out of 100.  **Write the percentage over 100** and simplify. |  |