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| **Topic/Skill** | **Definition/Tips** | **Example** |
| 1. Expression | A mathematical statement written using **symbols**, **numbers** or **letters**, |  |
| 2. Equation | A statement showing that **two expressions are equal** |  |
| 4. Formula | Shows the **relationship** between **two or more variables** | Area of a rectangle = length x width or |
| 5. Simplifying Expressions | **Collect ‘like terms’.**  Be careful with negatives.  and are not like terms. |  |
| 6. times | The answer is not . | Squaring is multiplying by itself, not by 2. |
| 7. | The answer is not | If , then =, not |
| 8. | The answer is 3p not | If , then , not |
| 9. Expand | To expand a bracket, **multiply** each term **in the bracket** by the expression **outside** the bracket. |  |
| 10. Factorise | The **reverse** of **expanding**.  Factorising is writing an expression as a product of terms by ‘**taking out’ a common factor** or **highest common factor** | , where 3 is the common factor.  , where is the highest common factor. |
| 11. Solve | To find the **answer**/value of something  **Use inverse operations** on both sides of the equation (balancing method) until you find the value for the letter. | Solve  Add 3 on both sides  Divide by 2 on both sides |
| 12. Writing Formulae and Equations | **Substitute letters for words** in the question. | Bob charges £3 per window and a £5 call out charge.  Where N=number of windows and C = cost |
| 13. Substitution | **Replace letters with numbers**.  Be careful of . You need to square first, then multiply by 5. | Find:  1.  2.  3. |
| 14. Rounding | To make a number simpler but keep its value close to what it was.  If the **digit to the right** of the rounding digit is **less than 5, round down**.  If the **digit to the right** of the rounding digit is **5 or more, round up**. | 74 rounded to the nearest ten is 70, because 74 is closer to 70 than 80.  152,879 rounded to the nearest thousand is 153,000. |
| 15. Significant Figure | The significant figures of a number are the digits which **carry meaning** (ie. are significant) to the size of the number.  The **first significant figure** of a number **cannot be zero**.  In a number with a decimal, trailing zeros are not significant. | In the number 0.00821, the first significant figure is the 8.  In the number 2.740, the 0 is not a significant figure.  0.00821 rounded to 2 significant figures is 0.0082.  19357 rounded to 3 significant figures is 19400. We need to include the two zeros at the end to keep the digits in the same place value columns. |
| 16. Truncation | A method of approximating a decimal number by **dropping all decimal places** past a certain point **without rounding**. | 3.14159265… can be truncated to 3.1415 (note that if it had been rounded, it would become 3.1416) |
| 17. Error Interval | A **range of values** that a number could have taken before being rounded or truncated.  An error interval is written using inequalities, with a **lower bound** and an **upper bound**.  Note that the lower bound inequality can be ‘equal to’, but the upper bound cannot be ‘equal to’. | 0.6 has been rounded to 1 decimal place.  The error interval is:  The lower bound is 0.55  The upper bound is 0.65 |