

**Year 8 Mathematics**  
**Winter Examination Checklist**

**1. Number: Integers and Decimals**

- Multiply and divide numbers by 10, 100 and 1000
- Understand place value to three decimal places
- Read, write, compare, and order integers (positive and negative) and decimals (up to 3dp)
- Round to the nearest whole number, ten, hundred, thousand
- Round to a given number of decimal places
- Estimate answers
- Check calculations using approximation and estimation
- Check calculations by applying inverse operations
- Written addition, subtraction, multiplication and division of positive and negative integers and decimals (with and without a calculator)
- Understand and use negative numbers in practical situations, e.g. temperature, debt

**2. Number: Powers, Multiples, Factors and Primes**

- Find square numbers, positive and negative square roots, cube numbers and cube roots - Use index notation for squares, cubes, and powers of 10
- Find the factors and multiples of a number
- Understand prime numbers
- Use prime factor decomposition to write any number as a product of its prime factors - Find the highest common factor (HCF) and least (lowest) common multiple (LCM) of two numbers

**3. Number: Fractions**

- Understand and use equivalent fractions
- Write a simple fraction as a terminating decimal
- Calculate a fraction of a quantity
- Express one quantity as a fraction of another
- Add and subtract simple fractions by finding a common denominator
- Solve problems involving fractions, including money
- Use non-calculator methods to solve problems involving fractions

**4. Number: Percentages**

- Understand that percentage means 'number of parts per 100'
- Calculate a percentage of a quantity
- Express one quantity as a percentage of another
- Solve problems involving percentages, including money
- Use non-calculator methods to solve problems involving percentages
- Use equivalences between fractions, decimals, and percentages in a variety of contexts

**5. Algebra: Algebraic Expressions**

- Interpret simple expressions as function machines with inputs and outputs
- Simplify expressions by collecting like terms
- Multiply a constant over a bracket/expand brackets