



11+ Maths Student Notes: Number Operations

Website: <https://oatutors.co.uk/>

What You'll Learn Today

- Master the four number operations: +, -, \times , \div
- Learn mental maths tricks for quick calculations
- Practice written methods for larger numbers
- Solve word problems step by step

1 Addition & Subtraction

1.1 Mental Strategies

Quick Mental Tricks

Partitioning: $47 + 28 = (40 + 20) + (7 + 8) = 60 + 15 = 75$

Compensation: $47 + 29 = 47 + 30 - 1 = 77 - 1 = 76$

Near Doubles: $47 + 46 = 46 + 46 + 1 = 92 + 1 = 93$

1.2 Column Method

For larger numbers, line up the columns:

$$\begin{array}{r} 3847 \\ + 2695 \\ \hline 6542 \end{array} \qquad \begin{array}{r} 5234 \\ - 1678 \\ \hline 3556 \end{array}$$

2 Multiplication

2.1 Mental Tricks

Multiplication Shortcuts

Times by 10: Move digits one place left (add a zero)

$$73 \times 10 = 730$$

Times by 5: Times by 10, then halve

$$36 \times 5 = (36 \times 10) \div 2 = 360 \div 2 = 180$$

Times by 9: Times by 10, then subtract original

$$47 \times 9 = (47 \times 10) - 47 = 470 - 47 = 423$$

2.2 Grid Method

Break down larger multiplications:



$$34 \times 27 = ?$$

×	30	4
20	600	80
7	210	28

Add up: $600 + 80 + 210 + 28 = 918$

3 Division

3.1 Short Division

For dividing by single digits:

$$156 \div 12 = 13$$

3.2 Long Division

For dividing by two digits - essential for 11+!

Division Tips

- Use times tables in reverse
- Estimate first: $156 \div 12$ $160 \div 10 = 16$
- Check answers by multiplying back

4 Problem Solving Steps

Word Problem Strategy

1. **READ** the problem twice
2. **IDENTIFY** what you need to find
3. **CHOOSE** the right operation
4. **CALCULATE** step by step
5. **CHECK** your answer makes sense

5 Key Facts to Remember

Operation	Key Words
Addition	add, plus, sum, total, altogether, increase
Subtraction	subtract, minus, difference, decrease, less
Multiplication	times, multiply, product, lots of
Division	divide, share, split, how many groups

6 Quick Practice

Try these in your head:



1. $47 + 38 = ?$
2. $124 - 67 = ?$
3. $25 \times 8 = ?$
4. $144 \div 12 = ?$

Word Problem: A school has 24 classes. Each class has 28 students. How many students are there altogether?

Homework Reminder

- Practice the mental strategies daily
- Complete the homework worksheet
- Ask for help if you get stuck!

