

Diagnostic *Mathematics* Report

Assessment date: 20 May 2026 • Report prepared: 22 May 2026

LEARNER NAME

Gina Petersen*

GRADE

Grade 8

SCHOOL

Not supplied

REPORT TYPE

Baseline · Initial



Overview

Gina completed the That Maths Report three-part baseline assessment on 20 May 2026. This report walks you through how she is doing in maths right now - what she is strong at, what she needs to work on, and how she compares to where a Grade 8 learner is expected to be. A set of personalised worksheets is included to help her practise.



Grade Level Standing



BELOW GRADE LEVEL

1+ Year Behind

ON GRADE LEVEL

With Room to Grow

← CURRENT



ABOVE GRADE LEVEL

Advanced

Gina is currently performing on the level expected for Grade 8, with clear room to grow. The basics - the building blocks of all maths - are in a good place, but there are a few specific topics that need focused attention before she moves into Grade 9 next year. The most important of these is Algebra and Patterns, and you'll see below why that particular topic matters so much.



Assessment Results

Gina wrote three tests, each one a bit harder than the last. Test 1 checks the basics she should already know. Test 2 covers the everyday maths she is doing in Grade 8 right now. Test 3 is the harder paper - it stretches into Grade 9 work to see how she handles a bigger challenge.

TEST 1 The Basics 64%	TEST 2 Everyday Maths 52%	TEST 3 Harder Problems 45%
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Topic-by-Topic Breakdown

TOPIC / SKILL AREA	PERFORMANCE	STATUS	NOTES
Whole Numbers	78% 35/45	Strong	Confident with the four basic operations. A few small slips on questions with brackets (BODMAS) and on finding the prime factors of larger numbers, but this is a solid foundation.
Exponents	55% 23/42	Adequate	She understands what an exponent is (the small raised number, like the "3" in 2^3). What she needs is practice with the three main rules for combining them, and with writing very big numbers in shorthand form (scientific notation).
Common Fractions	52% 23/45	Adequate	Comfortable with simple fractions. The harder questions - multiplying mixed numbers (like $2\frac{1}{2} \times 1\frac{1}{4}$) and finding percentages of amounts - were where most marks were lost.
Decimals	73% 8/11	Adequate	Good grasp of the four operations with decimals. A small slip on ordering decimals when they had different numbers of digits after the point.

TOPIC / SKILL AREA	PERFORMANCE	STATUS	NOTES
Integers	82% 9/11	Strong	Her strongest topic. Very comfortable with positive and negative numbers – sign errors are rare.
Algebra & Patterns	38% 35/93	Gap Identified	This is Gina's biggest area for growth. She struggles most with substituting a number in place of a letter, finding the rule for a number pattern, and setting up her own equation from a word problem.
Geometry	58% 31/54	Adequate	She knows the names of shapes and many of the basic rules. Marks were lost most often because she forgot to write down the reason for her answer (e.g. "angles on a straight line"). Parallel-line rules also get mixed up.
Measurement & Data	51% 25/49	Adequate	Perimeter and area of simple rectangles are fine. Trouble started with shapes that have more than one part (like a rectangle joined to a semicircle), with the volume of 3D shapes, and with a few small errors in mean and median calculations.



Strengths & Areas for Development

◆ Strengths

- ▶ Positive and negative number work is a real strength – she rarely makes sign errors and handles integers with confidence.
- ▶ A solid grasp of the four basic operations (adding, subtracting, multiplying, dividing) with whole numbers.
- ▶ Comfortable working with decimals, including rounding them to a set number of decimal places.
- ▶ Understands what a fraction represents and can handle simple fraction operations.
- ▶ Knows the names and basic properties of common 2D shapes and can classify triangles correctly.
- ▶ Attempts every question – a really positive sign of a learner who is engaged and willing to try.
- ▶ Presents her work neatly and shows her working, which makes it easy to see where her thinking went right or wrong.

▲ Areas for Development

- ▶ Algebra and Patterns is by far the most important area to focus on – this is the topic that will unlock progress in the other topics too.
- ▶ Substituting a number in place of a letter in an expression, and then working out the answer correctly.
- ▶ Finding the general rule (formula) for a number pattern – being able to write down what any term in the pattern would be.
- ▶ The three exponent rules for combining powers with the same base – multiplying, dividing, and raising a power to another power.
- ▶ Multiplying and dividing fractions that have a whole-number part (mixed numbers) – remembering the small step of rewriting them first.
- ▶ Finding a percentage of an amount (e.g. "What is 15% of R240?") – this is a very common everyday skill.
- ▶ Always writing the reason next to a geometry answer – like "angles on a straight line" or "co-interior angles" – even when the answer feels obvious.
- ▶ Composite shapes (shapes made of more than one part) – working out area, perimeter and volume by breaking them into simpler pieces.



Diagnostic Narrative

Gina completed all three tests carefully and attempted every single question - a really positive sign of an engaged, willing learner. Her overall score of 189 out of 350 (54%) places her on grade level for Grade 8, with some very clear areas where focused practice will make a real difference. The most encouraging thing is that her difficulties are specific and targetable, rather than spread thinly across every topic. That means we know exactly what to work on.

Let's start with what's working well. Her strongest topic is Integers (82%), where she works confidently with positive and negative numbers and almost never makes a sign error. Whole Numbers (78%) and Decimals (73%) are also in a good place - she has a comfortable grasp of the basic four operations and her working is neat and accurate. These three topics form the foundation on which all of Grade 8 and Grade 9 maths is built, so this is a genuinely strong place to be starting from.

The most important finding in this report is about Algebra and Patterns (38%). This is Gina's biggest area for growth, and it matters more than any other topic. Here's why: algebra runs through almost everything else in maths - geometry problems often need you to set up an equation, measurement questions need you to substitute a value in, and word problems in every topic ask you to translate a story into maths. So a gap in algebra can quietly hold back progress in many other areas.

Three specific things stood out in Gina's algebra work:

1. Substitution. When she was asked to work out the value of an expression by replacing a letter with a number (for example, "if $x = 4$, work out $3x + 5$ "), she often made small errors in the calculation that followed. The idea of substitution is understood - the follow-through calculation is where the marks were lost.
2. Finding the rule for a number pattern. She could describe the next few numbers in a pattern easily enough, but writing the general rule (the formula that gives you any term in the pattern) is where things came unstuck. This is a key skill in Grade 8 and 9.
3. Setting up equations from a word problem. This was the single hardest thing for her, and it's the six-mark word problem at the end of Test 3 where she lost most marks in one place. Turning a real-life story into a maths equation is a skill that takes practice.

The middle band. Four other topics sit in a "knows the basics, stumbles on the harder questions" band — Exponents (55%), Common Fractions (52%), Geometry (58%) and Measurement and Data (51%). The good news is that the underlying concepts are mostly there. In Exponents, she needs to memorise the three rules for combining powers. In Common Fractions, she needs to master the "convert first, then calculate" habit for mixed numbers, and practise finding percentages of amounts. In Geometry, she needs to build the habit of writing the reason next to every answer. And in Measurement and Data, breaking composite shapes into simpler parts is the key skill to practise.

Bottom line: Gina is a learner with a solid maths foundation who has specific, identifiable gaps rather than general difficulty. This is a really positive position to be in - because gaps that we can see clearly are gaps that we can close. With focused work on algebra first, followed by the four middle-band topics, she can lift her overall performance significantly in just a matter of weeks. The personalised worksheet pack that comes with this report is designed to do exactly that.

→ Recommendations

Personalised Action Plan for Gina

- **Start with algebra — everything else can wait.** If Gina works through nothing else in the pack, please make sure the Algebra and Patterns worksheets get done first. This is the topic that will unlock progress in every other topic. Two weeks of focused algebra work will make more difference than anything else you could do. We have also included the **Grade 8 Algebra Companion** in the Worksheet Pack to assist with this.
- **Substitution practice.** The included worksheet has exercises where a letter is replaced with a number. Encourage her to rewrite the whole expression with the number in place first – before doing any calculation. This one small habit prevents most substitution mistakes.
- **Number pattern rules.** The "finding the general rule" exercises walk through the exact steps for writing a formula for a pattern. The starting point is always to look at the differences between the terms – please encourage her to write those down first.
- **The three exponent rules to memorise.** (i) When multiplying the same base, add the powers. (ii) When dividing with the same base, subtract the powers. (iii) When a power is raised to another power, multiply the powers and keep the same base. The worksheets drill these one rule at a time, in order, until they become automatic.
- **One simple fraction rule.** For fractions with a whole-number part (like $2\frac{1}{2}$), the first step is always to rewrite them as a single fraction (in this case $\frac{5}{2}$) before multiplying or dividing. This is the single fix that will improve her Common Fractions score most.
- **Percentages of amounts.** There is a specific set of exercises on "find X% of an amount" (like "find 15% of R240"). Please prioritise these – this is a life skill she'll use forever, and it's an easy area to improve quickly.
- **Always write the geometry reason.** For every geometry answer, encourage her to write a short reason next to it — like "angles on a straight line add up to 180° " or "co-interior angles are supplementary". She lost several easy marks by leaving these out. We are including the **CAPS Acceptable Reasons** document with the worksheet pack.

- **Composite shapes – one part at a time.** For shapes made of more than one part (like a rectangle joined to a semicircle), the trick is to work out each part separately and add them at the end. The worksheets show this step-by-step approach with lots of practice.
- **Little and often is best.** Two or three focused 30-minute sessions a week will make far more of a difference than one long weekend session. Consistency matters more than intensity at this stage.
- **Celebrate the strengths.** Please remember to remind Gina how strong her integer, whole-number and decimal work already is. Confidence in maths comes from knowing what you're good at – and she has a real foundation to be proud of.

Personalised Worksheet Pack Included

Included with this report is a set of worksheets put together just for Gina. There are two worksheets for each topic she was tested on, chosen at the right level of difficulty for her – a bit gentler where she needs to build confidence, and a bit more challenging where she's ready. Each one comes with marking guidelines so you can check her answers at home. If you would like a follow-up assessment in about four weeks' time to see how much she has improved, please get in touch – this is an optional extra service.

Worksheets included in this pack:

- Whole Numbers – Worksheet B1 and B2 + marking guidelines
- Exponents – Worksheet B1 and B2 + marking guidelines
- Common Fractions – Worksheet B1 and B2 + marking guidelines
- Decimals – Worksheet B1 and B2 + marking guidelines
- Integers – Worksheet C1 and C2 + marking guidelines
- Algebra and Patterns – Worksheet A1 and A2 + marking guidelines
- Geometry – Worksheet B1 and B2 + marking guidelines
- Measurement and Data – Worksheet B1 and B2 + marking guidelines

Also included in this pack:

- Grade 8 Algebra Companion (usually R249)
- CAPS Acceptable Reasons document

END OF REPORT

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This report is confidential and prepared exclusively for the named learner and their parent/guardian.

**Please note that Gina Petersen is a fictional learner.*

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