

GRADE 11 · MATHEMATICAL LITERACY · PAPER 2

Maps, Plans, Scale & Measurement

A focused, exam-ready sample workbook for Grade 11 Mathematical Literacy learners — and the parents who support them.



How This Workbook Helps

This sample workbook gives you a taste of the structured, exam-focused resources used in Stephan's Math Classes. Every page is designed to break a concept down into clear, manageable steps — so you walk into Paper 2 knowing exactly what to do and how to write it.

This workbook focuses on **Scale & Measurement** — one of the most reliably examined topics in Paper 2. Work through it at your own pace, attempt the practice question before looking at the memo, and pay special attention to the common mistakes checklist.

WHAT YOU WILL FIND INSIDE

Clear Method Page

Learn the formula first, then see exactly how it is applied — no guesswork.

Fully Worked Example

Every step written out the way an examiner expects it — including units.

Practice Question & Memo

Test your understanding, then check your answer against the full worked memo.

Common Mistakes Checklist

The errors that cost marks most often — and how to make sure you avoid them.



This is a sample extract

The full lesson workbook includes additional topics, a broader set of practice questions, and a wider range of exam-style examples. Book a diagnostic lesson to receive the complete resources, personalised to your current level.

Understanding Scale & Measurement

A **scale** shows the relationship between a distance on a map or plan and the actual distance in real life. A scale of **1 : 50 000** means that every 1 cm on the map equals 50 000 cm in reality.

THE CORE FORMULA

SCALE FORMULA

$$\text{Actual Distance} = \text{Map Distance} \times \text{Scale Denominator}$$

To find Map Distance:

$$\text{Map Distance} = \frac{\text{Actual Distance}}{\text{Scale Denominator}}$$

What the scale means:

$$1 \text{ cm on map} = \text{Scale Denominator cm in real life}$$

ESSENTIAL UNIT CONVERSIONS

Conversion	Multiply by	Divide by
cm → m	—	100
m → km	—	1 000
cm → km	—	100 000
m → cm	100	—
km → m	1 000	—

! Always check the unit the question asks for before writing your final answer. Converting to the wrong unit — or forgetting to convert at all — is one of the most common ways learners lose marks.

From Map Distance to Real Distance

QUESTION

A road map has a scale of 1 : 250 000. Two towns are shown **4,8 cm** apart on the map. Calculate the actual distance between the two towns. Give your answer in **kilometres**.

1

Identify what you know

Scale: 1 : 250 000 | Map distance: **4,8 cm** | Find: Actual distance in **km**

2

Write the formula

Actual Distance = Map Distance $\times$ Scale Denominator

3

Substitute and calculate

$= 4,8 \times 250\,000$
 $= 1\,200\,000\text{ cm}$

4

Convert to kilometres

$1\,200\,000\text{ cm} \div 100 = 12\,000\text{ m}$
 $12\,000\text{ m} \div 1\,000 = \mathbf{12\text{ km}}$

FINAL ANSWER

$\therefore$ The actual distance between the two towns is **12 km**.



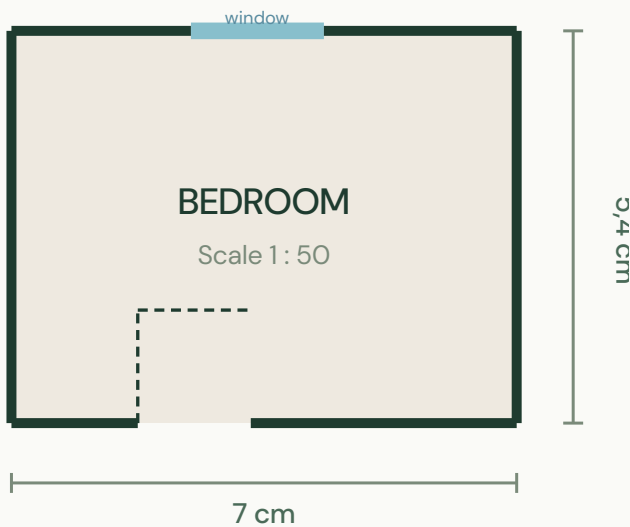
Tutor note: Always convert your answer at the end — don't convert during the calculation. Multiply by the scale denominator first, then convert the result. This avoids small errors that compound.

Apply Your Knowledge

CONTEXT

A floor plan of a house is drawn to a scale of **1 : 50**. Study the plan of the bedroom below. On the plan, the bedroom measures **7 cm** in length and **5,4 cm** in width.

FLOOR PLAN DIAGRAM



QUESTIONS

- (a) Calculate the actual **length** of the bedroom.
Give your answer in metres. (2)

- (b) Calculate the actual **width** of the bedroom.
Give your answer in metres. (2)

- (c) Calculate the actual **area** of the bedroom in m^2 .
(3)

[TOTAL: 7 marks]

Attempt all three parts before turning to the memo. Check that you have shown each calculation step and that your final answer includes the correct unit.

Fully Worked Memo

Question recap: A bedroom on a floor plan (scale 1 : 50) measures 7 cm × 5,4 cm. Find the actual length, width, and area.

a**Actual length of the bedroom**

$$\begin{aligned} &= 7 \text{ cm} \times 50 \\ &= 350 \text{ cm} \\ &= 350 \div 100 \\ &= \mathbf{3,5 \text{ m}} \end{aligned}$$

✓ 2 marks

b**Actual width of the bedroom**

$$\begin{aligned} &= 5,4 \text{ cm} \times 50 \\ &= 270 \text{ cm} \\ &= 270 \div 100 \\ &= \mathbf{2,7 \text{ m}} \end{aligned}$$

✓ 2 marks

c**Actual area of the bedroom**

$$\begin{aligned} \text{Area} &= \text{length} \times \text{width} \\ &= 3,5 \text{ m} \times 2,7 \text{ m} \\ &= \mathbf{9,45 \text{ m}^2} \end{aligned}$$

✓ 3 marks

TOTAL**7 / 7 marks****Examiner's note**

Always show all three steps: **(1)** multiply by the scale denominator, **(2)** convert units, **(3)** state the correct unit in your answer. Even if your final answer is wrong, correct working earns process marks — never leave working blank.

Don't Lose Easy Marks

These are the most common errors in Scale & Measurement questions. Read through them carefully — awareness alone will save you marks in the next test or exam.

-  **Forgetting to convert units**
After multiplying by the scale denominator, your answer is in **cm**. Most questions ask for **m** or **km**. Always convert before writing your final answer.
-  **Dividing instead of multiplying (or vice versa)**
To find the **actual distance**, you **multiply**. To find the **map distance**, you **divide**. Read the question carefully to know which direction you are working in.
-  **Reading the scale the wrong way**
1 : 50 000 means 1 cm on the map = 50 000 cm in real life — not the other way around. Always check which number is "1".
-  **Not showing working**
Even a correct final answer with no working earns minimal marks. Examiners award process marks — always write every step, even if it seems obvious.
-  **Leaving units out of the final answer**
"3,5" is not the same as "3,5 m". Missing the unit is a common one-mark loss. Always end your answer with the correct unit.
-  **Confusing area and perimeter**
Area = length $\times$ width (answer in m^2 or cm^2). Perimeter = sum of all sides (answer in m or cm). Know which formula the question is asking you to use.

Before handing in any test: check that every answer has the correct unit, every step is shown, and you have answered what was actually asked — not what you expected the question to be.

READY TO GO FURTHER?

Book a Diagnostic Lesson

In a diagnostic lesson, Stephan will identify exactly where you are in the curriculum, pinpoint any gaps, and show you a clear plan for the months ahead — all in one session.

WHAT TO EXPECT

- A focused, one-on-one session tailored to you
- A clear picture of your current level
- A personalised study plan for the term ahead
- No pressure — just honest, effective progress

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