

Chapter 1 | Measurement Foundations: Length, Units, and Estimation

Worksheet A | Guided Practice

Name: _____ Grade: _____ Date: _____

Warm-up: Worked Examples

Example 1: Complete Measurement

Problem: A classroom wall is 8 metres wide. A student writes the answer as 8. What is missing?

Add the unit $8 \rightarrow 8 \text{ m}$

Example 2: Convert Metres to Centimetres

Problem: Convert 4 m to centimetres.

Conversion fact $1 \text{ m} = 100 \text{ cm}$

Multiply $4 \times 100 = 400$

Answer $4 \text{ m} = 400 \text{ cm}$

Example 3: Choose a Reasonable Unit

Problem: Choose the most reasonable unit for the distance between two cities: mm, cm, m, or km.

Estimate the size $\Leftrightarrow$ city distance = large

Answer $\Leftrightarrow$ km

Example 4: Find Length from Ruler Marks

Problem: A line segment begins at 2.8 cm and ends at 11.6 cm on a ruler. Find its length.

Subtract $\Leftrightarrow 11.6 - 2.8 = 8.8$

Answer $\Leftrightarrow 8.8 \text{ cm}$

Example 5: Common-Trap Ruler Reading

Problem: A pencil begins at the 5 cm mark and ends at the 17 cm mark on a ruler. A student says, “The pencil is 17 cm long.” Explain the mistake and find the correct length.

Wrong move $\Leftrightarrow 17 \text{ cm}$ (end mark only)

Correct subtraction $\Leftrightarrow 17 - 5 = 12$

Answer $\Leftrightarrow 12 \text{ cm}$

Practice

1. A desk is 1.2 ____ wide.

Think about how tall a desk is compared to a metre stick.

2. 3 m = ____ cm

Multiply by 100.

3. Starts at 0 cm and ends at 8 cm: ____ cm

Subtract the start mark from the end mark.

4. A paperclip is 30 ____ long.

A paperclip is very small.

5. 600 cm = ____ m

Divide by 100.

6. Starts at 2 cm and ends at 11 cm: ____ cm

Subtract the start mark from the end mark.

7. A trip between cities is 85 ____ long.

Distances between cities need the largest metric unit.

8. 5 km = ____ m

Multiply by 1000.

9. Starts at 4.5 cm and ends at 10.5 cm: ____ cm

Subtract the start mark from the end mark.

10. A notebook is 28 ____ tall.

A notebook is about as tall as a standard ruler.

11. 40 mm = ____ cm

Divide by 10.

12. Starts at 7 cm and ends at 16 cm: ____ cm

Subtract the start mark from the end mark.

13. A coin is 2 ____ thick.

A coin's thickness is a very small distance.

14. 9 cm = ____ mm

Multiply by 10.

15. Starts at 1.2 cm and ends at 6.8 cm: ____ cm

Subtract the start mark from the end mark.
