

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

Worksheet B | Independent Practice

Name: _____ Grade: _____ Date: _____

Warm-up: Worked Examples

Example 1: Complete Measurement

Problem: A whiteboard is 2.4 metres wide. A student records the measurement as 2.4. What is missing?

Add the unit $\Leftrightarrow 2.4 \rightarrow 2.4 \text{ m}$

Example 2: Convert Centimetres to Metres

Problem: Convert 650 cm to metres.

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

Divide by 100 $\Leftrightarrow 650 \div 100 = 6.5$

Answer $\Leftrightarrow 650 \text{ cm} = 6.5 \text{ m}$

Example 3: Choose a Reasonable Unit

Problem: Choose the most reasonable unit for the thickness of a coin: mm, cm, m, or km.

Estimate the size $\Leftrightarrow$ coin thickness = very small

Answer $\Leftrightarrow$ mm

Example 4: Find Length from Ruler Marks

Problem: A line segment begins at 1.7 cm and ends at 9.4 cm on a ruler. Find its length.

Subtract $\Leftrightarrow 9.4 - 1.7 = 7.7$

Answer $\Leftrightarrow 7.7 \text{ cm}$

Example 5: Common-Trap Ruler Reading

Problem: A strip begins at the 12 cm mark and ends at the 36 cm mark. A student says, “The strip is 36 cm long.” Explain the mistake and find the correct length.

Wrong move $\Leftrightarrow 36 \text{ cm}$ (end mark only)

Correct subtraction $\Leftrightarrow 36 - 12 = 24$

Answer $\Leftrightarrow 24 \text{ cm}$

Practice

1. Convert 8 m to centimetres.

2. A line begins at 3 cm and ends at 18 cm. Find its length.

3. Choose the most reasonable unit for the length of a bus: mm, cm, m, or km.

4. Convert 1250 m to kilometres.

5. A marker begins at 5.6 cm and ends at 14.9 cm. Find its length.

6. A student says that $12\text{ m} = 120\text{ cm}$. Is the student correct? Explain.

7. Convert 4.2 km to metres.

8. A strip begins at 9.2 cm and ends at 20 cm. Find its length.

9. Choose the most reasonable unit for the distance from Toronto to Ottawa: mm, cm, m, or km.

10. Convert 75 mm to centimetres.

11. A student measures a classroom door as 2000 mm. Is that a reasonable measurement? Explain.

12. A measuring tape begins at 12.4 cm and ends at 27.8 cm. Find the measured length.

13. Convert 6.4 m to centimetres.

14. A student says a pencil is 0.15 km long. Explain why this is not reasonable.

15. Write a complete measurement for an object that is 17 centimetres long.
