Merit Tutoring

WORKSHEET 29

Year 6 Mathematics: Measurement

Length (km, m, cm)

Focus: Basic Conversions

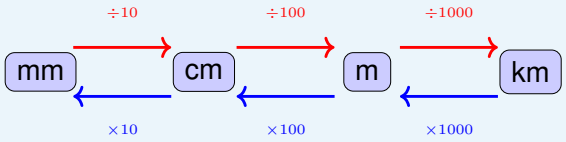
Name: _____ **Date:** _____

Metric Length Units

Metric Units of Length:
millimetre (mm) → centimetre (cm) → metre (m) → kilometre (km)
Conversion Rules:

- 10 mm = 1 cm
- 100 cm = 1 m
- 1000 m = 1 km

Conversion Arrows:



Examples:

- 300 cm = 3 m (divide by 100)
- 5 km = 5000 m (multiply by 1000)

Section 1: Simple Conversions (Fluency)

1. Convert 300 cm to metres.

Answer: _____

2. Convert 5 km to metres.

Answer: _____

3. Convert 40 mm to centimetres.

Answer: _____

4. Convert 2000 m to kilometres.

Answer: _____

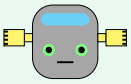
5. Convert 750 cm to metres.

Answer: _____

6. Convert 6 km to metres.

Answer: _____

MEASUREMENT MASTER!



Ruler Robot

Why did the ruler go to school?

To measure up to everyone's expectations!

Section 2: Comparing Lengths (Reasoning)

7. Which is longer: 200 cm or 3 m?

Answer: _____

8. Put these in ascending order (smallest to largest): 50 mm, 2 cm, 1 m

Answer: _____

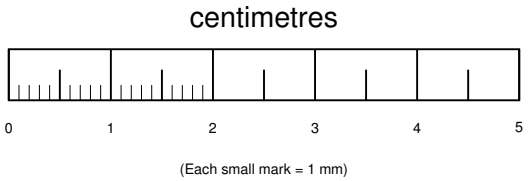
9. Circle the longest measurement: 5000 m, 4 km, 600000 cm

Answer: _____

10. Which is shorter: 150 cm or 1.6 m?

Answer: _____

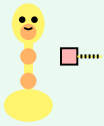
11. Look at this ruler segment:



How many millimetres are in 2.5 cm?

Answer: _____

LENGTH LEGEND!



Giraffe

Why did the giraffe love measuring?

Because it always looked up to great heights!

Section 3: Mixed Unit Problems (Challenge)

12. I have a rope 1 m long. I cut off 30 cm. How many cm are left?

Answer: _____

13. Add 1 km and 500 m. Give the answer in metres.

Answer: _____

14. A fence is 250 cm long. Another fence is 3 m long. What is their total length in metres?

Answer: _____

15. Subtract 750 cm from 10 m. Give your answer in metres.

Answer: _____

16. A piece of string is 80 cm long. I need 1.2 m. How many more centime-

tres do I need?

Answer: _____

17. Complete: 3 km 200 m = ____ m

Answer: _____

CONVERSION CHAMPION!

Metric Mouse

What did the mouse say about measurements?

Size doesn't matter... unless you're converting units!

Excellent Work! Check your answers on the next page.

ANSWER KEY

Worksheet 29: Basic Conversions

Section 1: Simple Conversions

1. 3 m (300 ÷ 100 = 3)
2. 5000 m (5 × 1000 = 5000)
3. 4 cm (40 ÷ 10 = 4)
4. 2 km (2000 ÷ 1000 = 2)
5. 7.5 m (750 ÷ 100 = 7.5)
6. 6000 m (6 × 1000 = 6000)

Section 2: Comparing Lengths

7. 3 m is longer (200 cm = 2 m)
8. 2 cm (= 20 mm), 50 mm (= 5 cm), 1 m (= 100 cm)
9. 600000 cm (= 6000 m = 6 km, which is longest)
10. 150 cm is shorter (1.6 m = 160 cm)
11. 25 mm (2.5 cm × 10 = 25 mm)

Section 3: Mixed Unit Problems

12. 70 cm (1 m = 100 cm, 100 - 30 = 70)
13. 1500 m (1 km = 1000 m, 1000 + 500 = 1500)
14. 5.5 m (250 cm = 2.5 m, 2.5 + 3 = 5.5)
15. 2.5 m (10 m - 7.5 m = 2.5 m, or 1000 cm - 750 cm = 250 cm = 2.5 m)
16. 40 cm (1.2 m = 120 cm, 120 - 80 = 40)
17. 3200 m (3 km = 3000 m, 3000 + 200 = 3200)

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WORKSHEET 30

Year 6 Mathematics: Measurement

Length (km, m, cm)

Focus: Decimal Lengths and Word Problems

Name: _____ **Date:** _____

Understanding Decimal Lengths

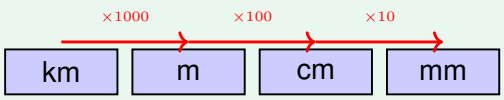
Decimals in Measurements:
When we write 1.5 m, this means 1 metre AND 0.5 metres (which is 50 cm).

Converting Decimals:

- 1.5 m $= 1.5 \times 100 = 150$ cm
- 2.4 km $= 2.4 \times 1000 = 2400$ m
- 3.5 cm $= 3.5 \times 10 = 35$ mm

Important: 1.2 m is NOT 1 m 2 cm!
1.2 m = 1 m and 0.2 m = 1 m and 20 cm = 120 cm

Conversion Stairs:



Section 1: Converting Decimals (Fluency)

1. Convert 1.5 m to cm. (Hint: 1.5×100)

Answer: _____

2. Convert 2.4 km to m.

Answer: _____

3. Convert 3.5 cm to mm.

Answer: _____

4. Convert 0.8 m to cm.

Answer: _____

5. Convert 4.25 km to m.

Answer: _____

6. Convert 6.7 cm to mm.

Answer: _____

DECIMAL DYNAMO!

Calc Bot

Why did the calculator love decimals?

Because it could always count on the point!

Section 2: Interpreting Decimals (Reasoning)

7. Is 1.2 m the same as 1 m 2 cm or 1 m 20 cm? Explain.

Answer: _____

8. A door is 204 cm tall. Write this in metres.

Answer: _____

9. Convert 3 m 45 cm to metres using decimals.

Answer: _____

10. Which is longer: 2.5 m or 240 cm?

Answer: _____

11. A ribbon is 0.75 m long. How many centimetres is this?

Answer: _____

POINT PERFECT!

Point Pencil

What did the decimal point say to the number?

"I'm just here to make a point!"

Section 3: Real-World Problems (Challenge)

12. A fun run is 5 km long. Tom has run 3500 m. How many metres does he have left to run?

Answer: _____

13. A stack of 10 books is 25 cm high. How thick is one book in mm?

Answer: _____

14. A swimming pool is 50 m long. How many laps of 50 m make up 1 km?

Answer: _____

15. A piece of fabric is 3.2 m long. I need 350 cm. Do I have enough? By how much?

Answer: _____

16. A toy car travels 180 cm. How many metres is this?

Answer: _____

17. The height of a building is 0.125 km. What is this in metres?

Answer: _____

REAL-WORLD RULER!

Trophy Ruler

Why did the ruler win a trophy?

Because it measured up to every challenge!

Outstanding Work! Check your answers on the next page.

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ANSWER KEY

Worksheet 30: Decimal Lengths & Word Problems

Section 1: Converting Decimals

1. 150 cm (1.5 × 100 = 150)
2. 2400 m (2.4 × 1000 = 2400)
3. 35 mm (3.5 × 10 = 35)
4. 80 cm (0.8 × 100 = 80)
5. 4250 m (4.25 × 1000 = 4250)
6. 67 mm (6.7 × 10 = 67)

Section 2: Interpreting Decimals

7. 1 m 20 cm (1.2 m = 1 m + 0.2 m = 1 m + 20 cm, NOT 2 cm)
8. 2.04 m (204 ÷ 100 = 2.04)
9. 3.45 m (3 m + 0.45 m = 3.45 m, since 45 cm = 0.45 m)
10. 2.5 m is longer (2.5 m = 250 cm, which is 10 cm more than 240 cm)
11. 75 cm (0.75 × 100 = 75)

Section 3: Real-World Problems

12. 1500 m left (5 km = 5000 m, 5000 - 3500 = 1500)
13. 25 mm per book (25 cm ÷ 10 = 2.5 cm = 25 mm)
14. 20 laps (1 km = 1000 m, 1000 ÷ 50 = 20)
15. No, not enough. 3.2 m = 320 cm, which is 30 cm short of 350 cm.
16. 1.8 m (180 ÷ 100 = 1.8)
17. 125 m (0.125 × 1000 = 125)

Fantastic Achievement!

You've mastered Length Conversions!
From millimetres to kilometres, you measure up!