

GRADE 5 MATHEMATICS

MEASUREMENT

Complete Worksheet Pack

- Metric units & conversions
- Measurement calculations
 - Perimeter
- Area, volume & capacity
- Real-life problem solving

6 practice worksheets + separate answer keys

- Challenge & reasoning

Worksheet 1 • Metric Units & Conversions

Convert between common metric units and choose appropriate units.

A. Length

1. 5 km = ____ m.

2. 3.5 m = ____ cm.

3. 480 cm = ____ m ____ cm.

4. 7,250 m = ____ km ____ m.

5. 2.4 km = ____ m.

6. 860 mm = ____ cm.

B. Mass

7. 4 kg = ____ g.

8. 3,500 g = ____ kg.

9. 2.75 kg = ____ g.

10. 6,200 g = ____ kg ____ g.

C. Capacity & reasoning

11. 5 L = ____ mL.

12. 2,750 mL = ____ L ____ mL.

13. Which is more suitable for measuring the amount of water in a swimming pool: litres or millilitres? Explain.

14. Choose a sensible unit for the mass of a school bag: g or kg. Explain.

Worksheet 1 • Metric Units & Conversions

Answer Key

A

1. 5,000 m 2. 350 cm 3. 4 m 80 cm 4. 7 km 250 m 5. 2,400 m 6. 86 cm

B

7. 4,000 g 8. 3.5 kg 9. 2,750 g 10. 6 kg 200 g

C

11. 5,000 mL 12. 2 L 750 mL 13. Litres, because a pool holds a large volume. 14. kg, because a school bag has a mass of several kilograms.

Worksheet 2 • Measurement Calculations

Use measurements in real-life calculations.

A. Add and subtract measurements

1. A ribbon is 2 m 35 cm long. Another is 1 m 80 cm long. Find the total length.

2. A rope is 5 m long. A 1 m 75 cm piece is cut off. How much remains?

3. A container holds 3 L 500 mL. Another holds 2 L 750 mL. Find the total capacity.

4. A bag weighs 4 kg 250 g. Another weighs 2 kg 800 g. Find their combined mass.

B. Multiply and divide measurements

5. A 2 m ribbon is cut into 4 equal pieces. How long is each piece?

6. A baker uses 250 g of flour for one batch. How much flour is needed for 6 batches?

7. A tank holds 8 L. How many 500 mL bottles can fill it?

8. A 3.6 kg package is divided equally into 6 parcels. What is the mass of each parcel?

C. Reasoning

9. A student says $2\text{ m } 50\text{ cm} + 75\text{ cm} = 2\text{ m } 125\text{ cm}$. Is this a useful final answer? Rewrite it correctly.

10. Explain why 1 kg 200 g is not the same as 1.2 g.

Worksheet 2 • Measurement Calculations

Answer Key

A

1. 4 m 15 cm 2. 3 m 25 cm 3. 6 L 250 mL 4. 7 kg 50 g

B

5. 50 cm 6. 1,500 g = 1 kg 500 g 7. 16 bottles 8. 600 g

C

9. No; $2\text{ m } 50\text{ cm} + 75\text{ cm} = 3\text{ m } 25\text{ cm}$. 10. $1\text{ kg } 200\text{ g} = 1,200\text{ g} = 1.2\text{ kg}$, not 1.2 g.

Worksheet 3 • Perimeter & Measurement in Context

Use length measurements to solve practical problems.

A. Perimeter

1. Find the perimeter of a rectangle 12 cm long and 7 cm wide.

2. Find the perimeter of a square with side 9 m.

3. A rectangular garden is 25 m long and 16 m wide. Find its perimeter.

4. A playground is 40 m long and 25 m wide. How far is one complete lap around it?

B. Missing measurements

5. A rectangle has perimeter 50 cm and length 15 cm. Find its width.

6. A square has perimeter 48 m. Find the length of one side.

7. A rectangle has length 18 cm and perimeter 60 cm. Find its width.

C. Real-life reasoning

8. A farmer wants to put a fence around a rectangular field 80 m by 45 m. How many metres of fencing are needed?

9. A 100 m roll of tape is used to make a border around a square with side 18 m. How much tape remains?

10. Which has the greater perimeter: a 10 m $\times$ 8 m rectangle or a square with side 9 m? Show your working.

Worksheet 3 • Perimeter & Measurement in Context

Answer Key

A

1. 38 cm 2. 36 m 3. 82 m 4. 130 m

B

5. 10 cm 6. 12 m 7. 12 cm

C

8. 250 m 9. $100 - 72 = 28$ m 10. Rectangle = 36 m; square = 36 m; equal.

Worksheet 4 • Area, Volume & Capacity

Connect measurement to space, area and capacity.

A. Area

1. Find the area of a rectangle 15 cm by 8 cm.

2. Find the area of a square with side 12 m.

3. A classroom floor is 9 m long and 7 m wide. Find its area.

4. A rectangular poster is 60 cm by 40 cm. Find its area.

B. Volume

5. Find the volume of a cuboid measuring 8 cm $\times$ 5 cm $\times$ 3 cm.

6. Find the volume of a box measuring 10 cm $\times$ 4 cm $\times$ 6 cm.

7. A cube has side length 5 cm. Find its volume.

C. Capacity & reasoning

8. A tank is filled with 12 L of water. How many 750 mL bottles can be filled completely?

9. A box has dimensions 20 cm $\times$ 10 cm $\times$ 5 cm. What is its volume?

10. Explain the difference between area and volume.

Worksheet 4 • Area, Volume & Capacity

Answer Key

A

1. 120 cm^2 2. 144 m^2 3. 63 m^2 4. $2,400 \text{ cm}^2$

B

5. 120 cm^3 6. 240 cm^3 7. 125 cm^3

C

8. 16 bottles 9. $1,000 \text{ cm}^3$ 10. Area measures a surface in square units; volume measures space occupied in cubic units.

Worksheet 5 • Measurement Problem Solving

Solve multi-step measurement problems and check units.

A. Mixed measurement

1. A shop receives 6 boxes, each weighing 2 kg 750 g. What is the total mass?

2. A 5 L container has 1 L 650 mL poured out. How much remains?

3. A runner completes 4 laps of a 600 m track. What total distance does the runner cover in kilometres?

4. A 12 m rope is cut into pieces of 75 cm each. How many complete pieces can be made?

B. Practical problems

5. A rectangular room is 8 m by 6 m. Each square metre needs 4 floor tiles. How many tiles are needed?

6. A water tank holds 2,400 L. It is 75% full. How many litres of water are in it?

7. A delivery truck carries 15 boxes weighing 18 kg each. What is the total mass in kilograms and tonnes?

C. Error analysis

8. Sam says $4.5 \text{ L} = 450 \text{ mL}$. Correct him and explain.

9. Mia says the area of a $10 \text{ m} \times 5 \text{ m}$ rectangle is 30 m^2 . Find her error.

10. A student says 2 kg 300 g is 2.3 kg. Is this correct? Explain.

Worksheet 5 • Measurement Problem Solving

Answer Key

A

1. 16 kg 500 g 2. 3 L 350 mL 3. 2.4 km 4. 16 complete pieces

B

5. 192 tiles 6. 1,800 L 7. 270 kg = 0.27 tonnes

C

8. 4.5 L = 4,500 mL. 9. Area = 50 m²; she likely added instead of multiplying. 10. Yes; 2.3 kg = 2 kg 300 g.

Worksheet 6 • Measurement Challenge

Use multi-step reasoning and choose appropriate methods.

A. Challenge

1. A rectangular garden is 24 m by 15 m. A path 1 m wide is built around the outside. Find the perimeter of the outside edge.

2. A cuboid box measures 30 cm × 20 cm × 15 cm. Find its volume in cubic centimetres.

3. A tank contains 18 L 500 mL. It is used to fill 250 mL bottles. How many full bottles can be filled, and how much water remains?

4. A 4.8 kg bag of rice is divided equally into 12 packets. What is the mass of each packet in grams?

B. Compare & reason

5. Garden A is 20 m × 12 m. Garden B is 18 m × 14 m. Which has the greater area? Which has the greater perimeter?

6. A 2.5 L bottle and three 750 mL bottles are compared. Which contains more liquid, and by how much?

7. A square has the same perimeter as a rectangle measuring 14 cm by 8 cm. Find the side length and area of the square.

C. Think like a mathematician

8. Give two different rectangles with an area of 48 cm². Find the perimeter of each.

9. Explain why two shapes can have the same area but different perimeters.

10. Create your own multi-step measurement problem and solve it.

Worksheet 6 • Measurement Challenge

Answer Key

A

1. Outside dimensions are $26\text{ m} \times 17\text{ m}$, so outside perimeter = 86 m. 2. $9,000\text{ cm}^3$. 3. 74 full bottles, with 0 mL remaining. 4. 400 g.

B

5. Garden A area 240 m^2 , perimeter 64 m; Garden B area 252 m^2 , perimeter 64 m. B has greater area; perimeters are equal. 6. $2.5\text{ L} = 2,500\text{ mL}$; three bottles = 2,250 mL, so the 2.5 L bottle has 250 mL more. 7. Rectangle perimeter = 44 cm; square side = 11 cm; area = 121 cm^2 .

C

8. Examples: $6 \times 8 = 48$, perimeter 28 cm; $4 \times 12 = 48$, perimeter 32 cm. 9. Area and perimeter measure different properties. 10. Answers vary; check the calculations and units.