Year 5 · Measurement: Rulers, Clocks and Cubes

Name: _____ Date: _____

Hi! This sheet helps you practise measuring length, area, volume, angles and time. Grab a ruler and take your time, always write the unit next to your number!

Warm-up

1. Convert 4 metres into centimetres.

2. Convert 350 cm into metres and centimetres.

3. Find the area of a rectangle that is 7 cm long and 5 cm wide.

4. Is an angle of 130° acute, right, obtuse or reflex?

Practice

5. A regular hexagon has sides of 8 cm each. What is its perimeter?

6. Mele fills a box with centicubes. Each layer has 4 cubes across and 3 cubes back. She stacks 5 layers. What is the volume of the box in cubic centimetres?

7. Tane's rugby practice at Avondale starts at 4:15 p.m. and finishes at 5:50 p.m. How long is the practice?

8. A vegetable garden bed is a rectangle 6 m long and 3 m wide. What is its area, and what is its perimeter?

9. An irregular leaf is drawn on a grid. It fully covers 9 whole squares and also covers 6 half squares. Each square is 1 cm². Estimate the area of the leaf.

10. Aroha makes two rectangles from tiles. Rectangle A is 2 cm by 6 cm. Rectangle B is 3 cm by 4 cm. Show that they have the same area but different perimeters.

Challenge

11. A door is opened so the angle between the door and the wall measures 115°. What is the size of the reflex angle on the other side of the door? Name both angle types.

12. Nikau starts a long bike ride at 10:45 p.m. and finishes at 1:20 a.m. the next day. Using 24-hour time, work out how long he rode for.

Answer key (for parents and tutors)

1. Convert 4 metres into centimetres.
   There are 100 cm in 1 m, so 4 × 100 = 400 cm.

2. Convert 350 cm into metres and centimetres.
   100 cm = 1 m. 350 cm = 300 cm + 50 cm = 3 m and 50 cm (also written 3.5 m).

3. Find the area of a rectangle that is 7 cm long and 5 cm wide.
   Area = length × width = 7 × 5 = 35 cm².

4. Is an angle of 130° acute, right, obtuse or reflex?
   It is more than 90° but less than 180°, so it is an obtuse angle.

5. A regular hexagon has sides of 8 cm each. What is its perimeter?
   A regular hexagon has 6 equal sides. Perimeter = 6 × 8 = 48 cm.

6. Mele fills a box with centicubes. Each layer has 4 cubes across and 3 cubes back. She stacks 5 layers. What is the volume of the box in cubic centimetres?
   Cubes in one layer = 4 × 3 = 12. Total = 12 × 5 = 60 cubes, so the volume is 60 cm³.

7. Tane's rugby practice at Avondale starts at 4:15 p.m. and finishes at 5:50 p.m. How long is the practice?
   From 4:15 to 5:15 is 1 hour. From 5:15 to 5:50 is 35 minutes. Total = 1 hour and 35 minutes.

8. A vegetable garden bed is a rectangle 6 m long and 3 m wide. What is its area, and what is its perimeter?
   Area = 6 × 3 = 18 m². Perimeter = 6 + 3 + 6 + 3 = 18 m.

9. An irregular leaf is drawn on a grid. It fully covers 9 whole squares and also covers 6 half squares. Each square is 1 cm². Estimate the area of the leaf.
   6 half squares = 6 ÷ 2 = 3 whole squares. Total = 9 + 3 = 12 squares, so about 12 cm².

10. Aroha makes two rectangles from tiles. Rectangle A is 2 cm by 6 cm. Rectangle B is 3 cm by 4 cm. Show that they have the same area but different perimeters.
    Area A = 2 × 6 = 12 cm². Area B = 3 × 4 = 12 cm². Same area! Perimeter A = 2 + 6 + 2 + 6 = 16 cm. Perimeter B = 3 + 4 + 3 + 4 = 14 cm. Different perimeters, so equal areas can have different perimeters.

11. A door is opened so the angle between the door and the wall measures 115°. What is the size of the reflex angle on the other side of the door? Name both angle types.
    Angles around a point add to 360°. Reflex angle = 360 − 115 = 245°. The 115° angle is obtuse (between 90° and 180°); the 245° angle is reflex (between 180° and 360°).

12. Nikau starts a long bike ride at 10:45 p.m. and finishes at 1:20 a.m. the next day. Using 24-hour time, work out how long he rode for.
    10:45 p.m. = 22:45 and 1:20 a.m. = 01:20. From 22:45 to midnight (24:00) is 1 hour 15 minutes. From midnight to 01:20 is 1 hour 20 minutes. Total = 1 h 15 min + 1 h 20 min = 2 hours and 35 minutes.