Chapter 12

Length & Area
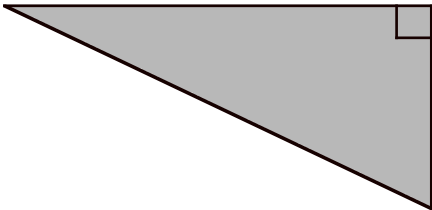
Exercise 1

1.   Would you use a **ruler, tape measure** or a **car odometer** to measure :–

   a   your teachers height

   b   the length of a £5 note

   c   the length of your bedroom

   d   the distance from Glasgow to Carlisle ?

2.   **Estimate** the lengths of parts **a, b** and **c** in question 1.

3.   **Estimate** the length of each line or object below to **the nearest centimetre** :–

   a   ————————

   b   ————————————————

   c

4.   Use a ruler to measure each line or object in question **3**.

Exercise 2

1.   Use a ruler to accurately draw a line of length :–

   a   4 centimetres

   b   7 centimetres

   c $5\frac{1}{2}$ centimetres

2.   Make **accurate** drawings of each shape below :–

   a

   4 cm

   $9\frac{1}{2}$ cm

   b   6 cm

   $5\frac{1}{2}$ cm

3.   **a**   Draw accurately a square with side 5 centimetres.

   b   Measure and write down the length of each diagonal line. (corner to corner).

Exercise 3

1. **Remember, 1 metre = 100 cm.** How many **centimetres** are in :-

    a 2 metres   **b** 5 metres   **c** 10 metres   **d** $5\frac{1}{2}$ metres ?

2. **Remember, 100 cm = 1 metre.** How many **metres** are in :-

    a 600 cm   **b** 300 cm   **c** 1200 cm   **d** 2500 cm ?

3. **Copy** and complete :-

    a 1 metre 45 centimetres   =   1 m 45 cm   = ... **cm**

    b 3 metre 28 centimetres   =   ... m ... cm = ... **cm**

    c 1 metre 1 centimetre   =   ... m ... cm = ... **cm**

    d 10 metres 5 centimetres   =   ... m ... cm = ... **cm**

    e 325 cm   =   3 m 25 cm   =   3 metres ... centimetres

    f 502 cm   =   ... m ... cm =   ... metres ... centimetres

    g 4004 cm   = ...   = ...

4. Simon Slug crawls 4 metres and 65 centimetres along the garden path.
    Stella Snail crawls 310 centimetres along the path.

    a   How many **centimetres** did Simon crawl ?

    b   How many **metres and centimetres** did Stella crawl ?

    c   How much **further** did Simon crawl than Stella ?

Exercise 4

1. Put these lengths in order, **smallest** first :-

    $1\frac{1}{2}$ m,   1 m 25 cm,   130 cm,   90 cm,   1 m.

2. Four pieces of pipe, each of length 1 m 30 cm, are joined together.

    What is the total length of pipe ?

3. Cecil Snail crawled 750 centimetres in the morning and 3 metres 5 centimetres in the afternoon.

How far had Cecil crawled that day :–

a in metres and centimetres   **b** in centimetres ?

4. Jim the joiner bought a plank $3\frac{1}{2}$ metres long.
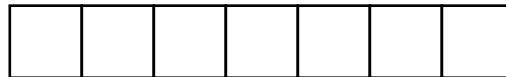
He needs the plank to be $2\frac{3}{4}$ metres long.

How many centimetres will he have to cut off the plank ?

5. The width of a book is 8 centimetres.
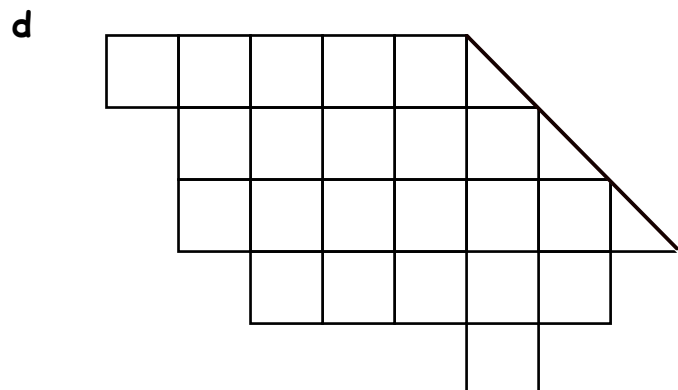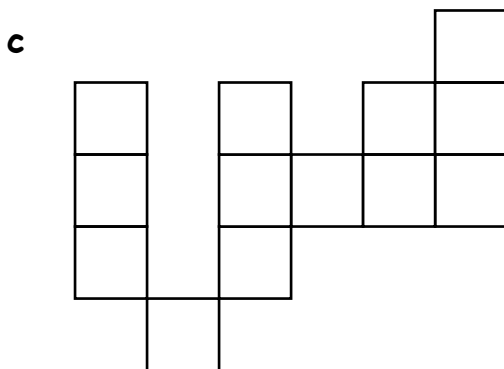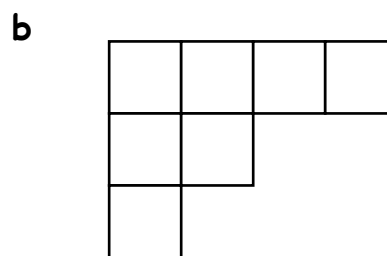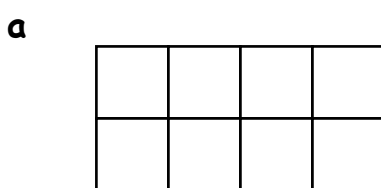A shelf has length 1 metre 12 centimetres.

How many books will fit on the shelf ?

Exercise 5
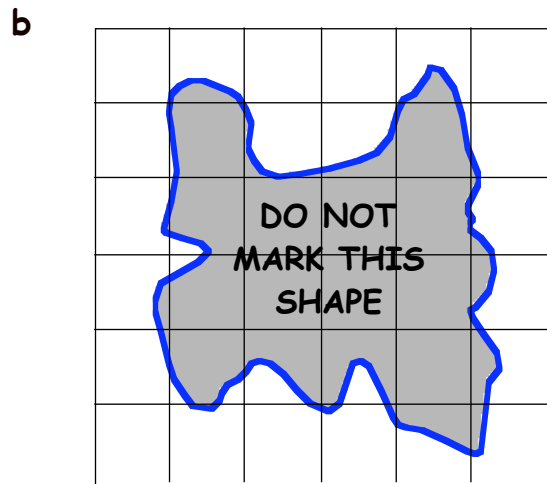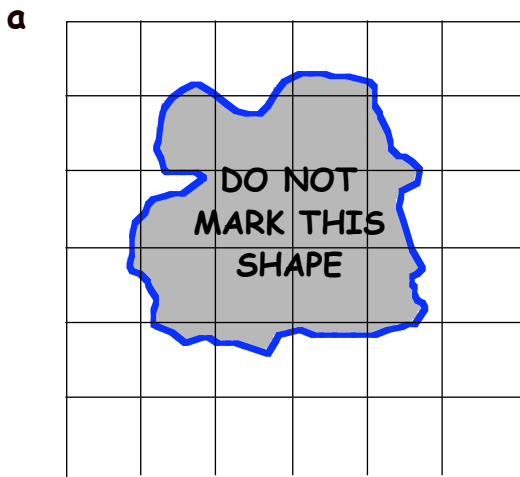
1. Write down the area of this figure in .....cm² :–

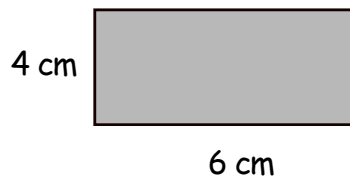**2.** Write down the area **(in ...cm²)** of each figure below :–

a

b

c

d

3. Estimate the areas of these shapes :–

a

DO NOT MARK THIS SHAPE

b

DO NOT MARK THIS SHAPE

Exercise 6

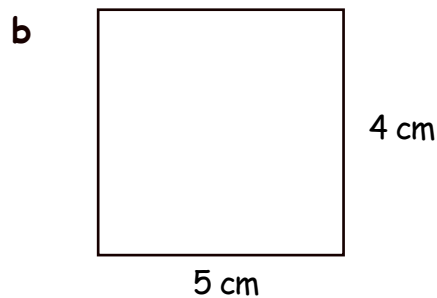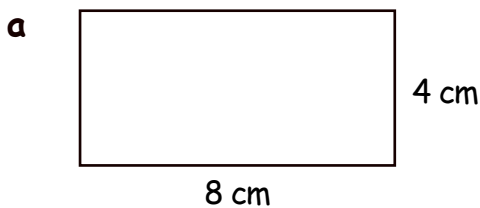**1.** Make a neat full size drawing of this rectangle and complete the calculation to find the area :–
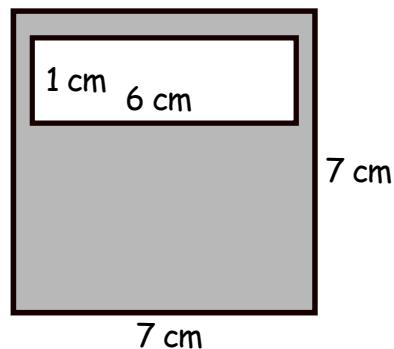
4 cm

6 cm

$A = L \times B$
$A = 6 \times 4$
$A = ... \text{ cm}^2$

2. Calculate each area (in cm²) :–
(Remember to show formula and calculation)

a

4 cm

8 cm

b

4 cm

5 cm

3. A square with side 7 centimetres has a rectangle 6 cm by 1 cm cut from it.

Calculate the shaded area.

1 cm   6 cm

7 cm

7 cm

Revision Exercise

1. Would you use a **ruler, tape measure** or **car odometer** to measure :–

    a   the length of a pencil   **b**   the length of a car

    c   the distance from Glasgow to Aberdeen ?

2. Estimate the length of each line to the nearest centimetre :–

    a ─────────   **b** ──────────────

    c   the long line down the right hand side of the page. ───────────▶

3. Use a ruler to measure accurately each line in question 2.

4. Use a ruler to draw a line with length :–

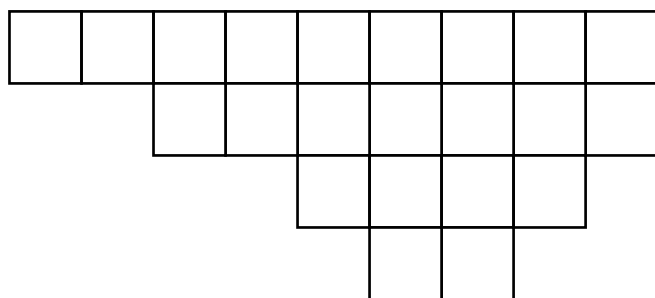   **a** 4 cm   **b** 1 cm   **c** 10 cm   **d** $5\frac{1}{2}$ cm

5. Change :–   a   200 cm to m   b   1 m to cm   c $3\frac{1}{2}$ m to cm

6. Put these lengths in order, largest first :–

    1 m 8 cm,   **109 cm,**   **1 m 11 cm,**   **97 cm.**

7. Write down the area
    (in square centimetres)
    of this figure :–

8. Use your formula to calculate the
    area of the rectangle shown :–

    3 cm

    8 cm