Homework/Extension
Step 2: Area and Perimeter

National Curriculum Objectives:

Mathematics Year 6: (6M7a) Recognise that shapes with the same areas can have different perimeters and vice versa

Mathematics Year 6: (6M7c) Recognise when it is possible to use formulae for the area of shapes

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Circle the shape with a different total perimeter. Whole numbers only, using known multiplication facts within 12 x 12.
Expected Circle the shape with a different total perimeter. Includes up to 2-digit by 2-digit whole numbers and some conversion between units of measure. The formula for finding area and perimeter is used.
Greater Depth Circle the shape with a different total perimeter. Includes conversion between units of measure and decimal numbers up to 2 dp. The formula for finding area and perimeter is used.

Questions 2, 5 and 8 (Varied Fluency)
Developing Find the area of the shapes. Whole numbers only, using known multiplication facts within 12 x 12.
Expected Use the given formulas to find the missing values of the shapes. Includes up to 2-digit by 2-digit whole numbers and some conversion between units of measure. The formula for finding area and perimeter is used.
Greater Depth Use the given formulas to find the missing values of the shapes. Includes conversion between units of measure and decimal numbers up to 2 dp. The formula for finding area and perimeter is used.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Find the possible perimeter of the shape. Whole numbers only, using known multiplication facts within 12 x 12.
Expected Find the possible perimeter of the shape. Includes up to 2-digit by 2-digit whole numbers and some conversion between units of measure. The formula for finding area and perimeter is used.
Greater Depth Find the possible perimeter of the shape. Includes conversion between units of measure and decimal numbers up to 2 dp. The formula for finding area and perimeter is used.

More Year 6 Perimeter, Area and Volume resources.

Did you like this resource? Don't forget to review it on our website.

Homework/Extension – Area and Perimeter – Teaching Information
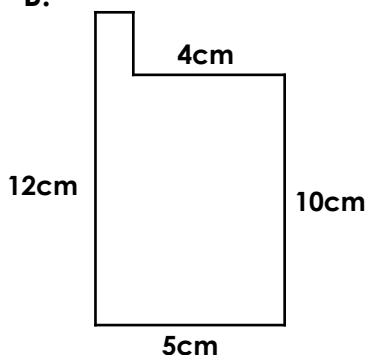
Area and Perimeter

1. Circle the shape has a different total perimeter to the others.

A.

9cm

12cm

B.

4cm

12cm

10cm

5cm

C.

11cm

6cm
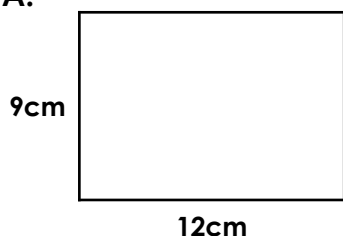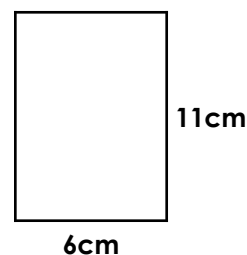
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HW/Ext

2. Calculate the area of the shapes below.

A.

5cm

2cm

3cm

11cm

cm²

9cm

8cm

B.

8cm

9m

12cm

cm²

2cm

3cm

10cm
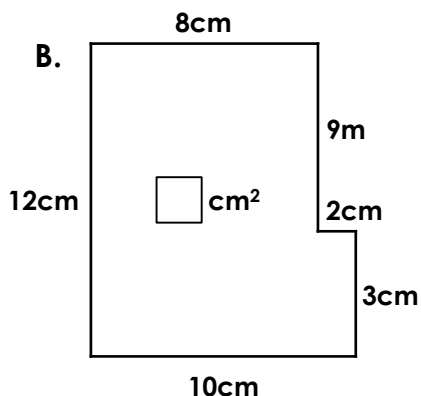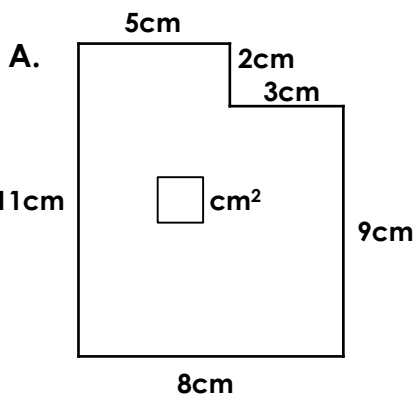
VF
HW/Ext

3. The shape below has an area greater than 50m².
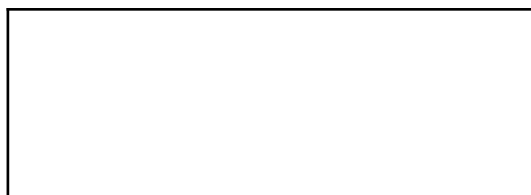
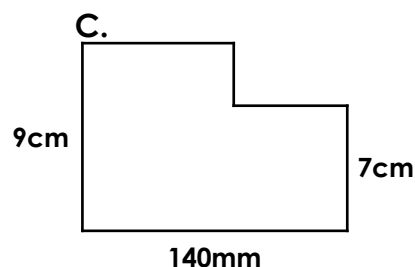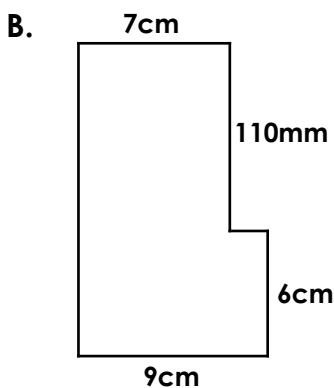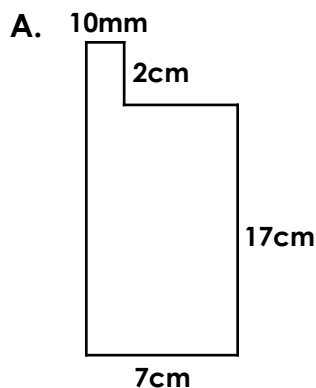**Work out the possible perimeter of the shape. Convince me.**

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Homework/Extension – Area and Perimeter – Year 6 Developing

Area and Perimeter

4. Circle the shape has a different total perimeter to the others.

A. 10mm

2cm

17cm

7cm

B. 7cm

110mm

6cm

9cm

C.

9cm

7cm

140mm

Not to scale

VF
HW/Ext

5. Using the formulas *p* = 2*l* + 2*w* and *a* = *w* x *l*, find the missing values of the shapes below.

A.

☐ cm

2cm

5cm

9cm

☐ cm²

☐ mm

12cm

B. 14cm

☐ mm

21cm

☐ cm²

2cm

7cm

☐ cm

Not to scale

VF
HW/Ext

6. The shape below has an area greater than 100m².
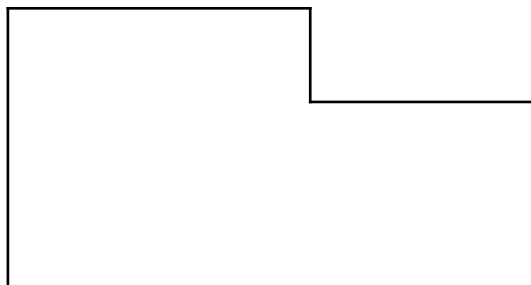
Work out the possible perimeter of the shape. Convince me.

Not to scale

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Homework/Extension – Area and Perimeter – Year 6 Expected

Area and Perimeter

7. Circle the shape has a different total perimeter to the others.
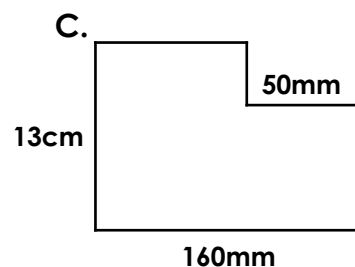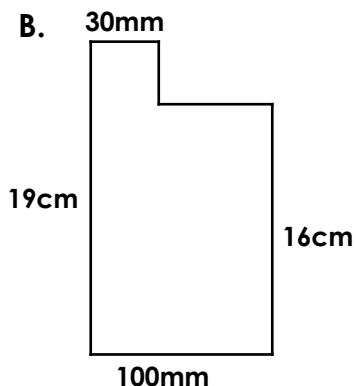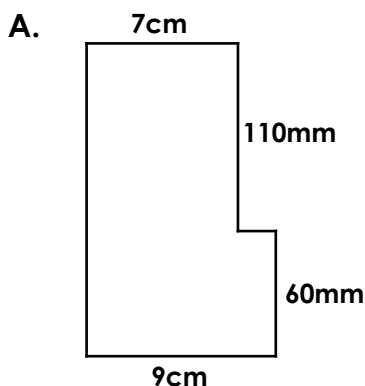
A.
7cm
110mm
60mm
9cm

B.
30mm
19cm
16cm
100mm

C.
50mm
13cm
160mm

Not to scale

VF
HW/Ext

8. Using the formulas $p = 2l + 2w$ and $a = w \times l$, find the missing values of the shapes below.

A.
☐ mm
2cm
350mm
11cm
☐ cm²
7.5cm
☐ cm

B.
13.5cm
☐ cm
165mm
☐ cm²
2cm
6cm
☐ mm
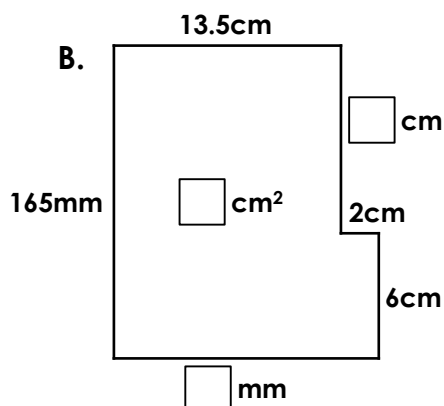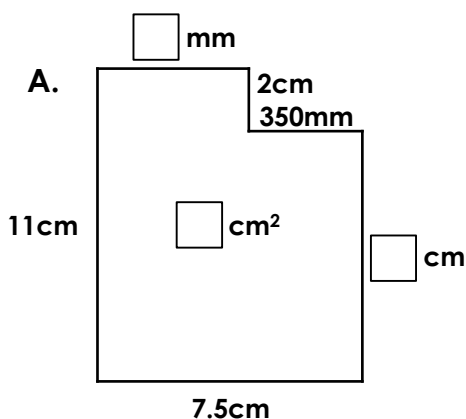
Not to scale

VF
HW/Ext

9. The shape below has an area that is a decimal number greater than 80m².
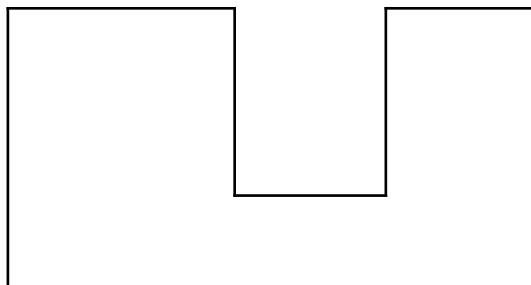
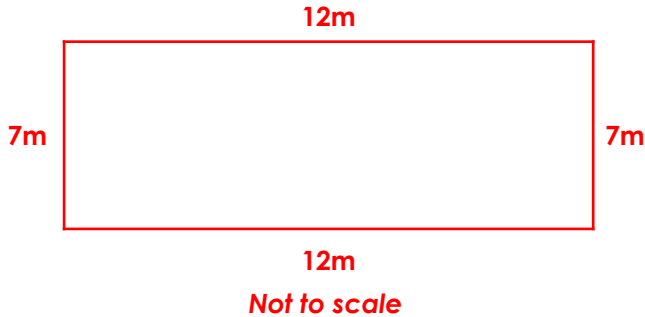**Work out the possible perimeter of the shape. Convince me.**

Not to scale

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Homework/Extension – Area and Perimeter – Year 6 Greater Depth

Developing

1. A

2. A. 82cm^2; B. 102cm^2

3. Various possible answers, for example:

The total perimeter could be 38m as shown below. This would result in an area of 84m^2.

Not to scale

Expected

4. C

5. A. 7cm, 70mm, 98cm^2; B. 16cm, 140mm, 308cm^2

6. Various possible answers, for example:

The total perimeter could be 44m as shown below. This would result in an area of 109m^2.

Not to scale

Greater Depth

7. B
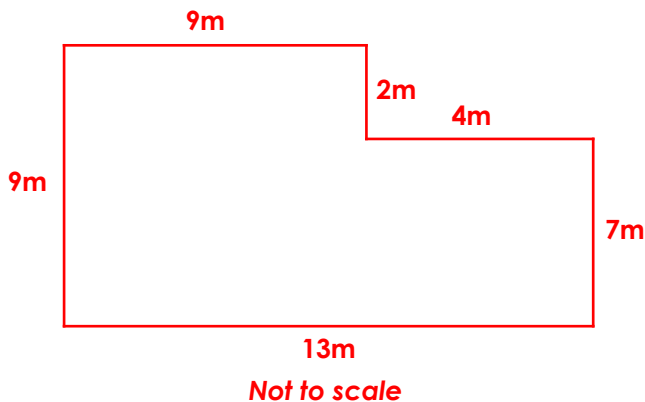
8. A. 40mm, 9cm, 75.5cm^2; B. 115mm, 10.5cm, 234.75cm^2

9. Various possible answers, for example:

The total perimeter could be 65m as shown below. This would result in an area of 124.5m^2.

Not to scale