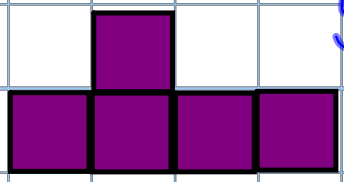
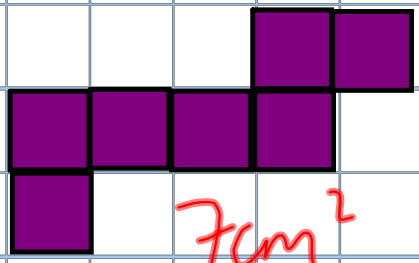
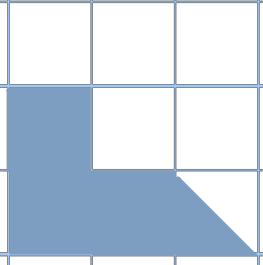
Find the area of these shapes:



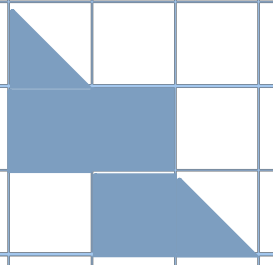
5cm²



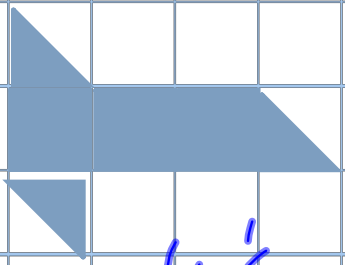
7cm²



3½cm²



4cm²

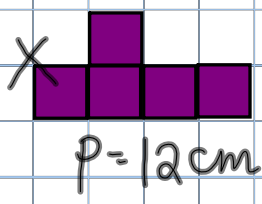


4½ cm²

Area

Page 98 A1-A4

Find the perimeter of these shapes:

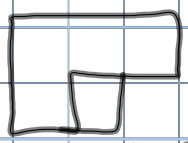


P = 12cm

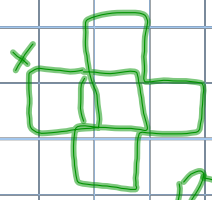
P = 16cm

Draw another shape with area $5cm^2$ but with a smaller perimeter.

Draw another shape with area but with a larger perimeter.

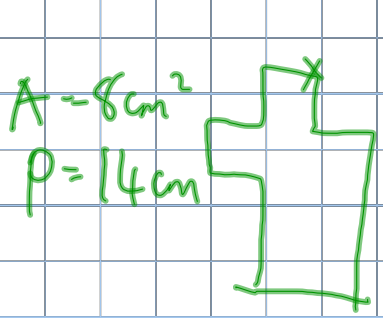


$A = 5cm^2$
P = 10cm

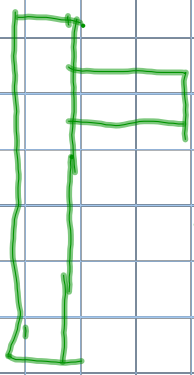


$5cm^2$

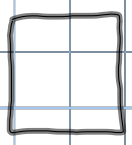
12cm



$A = 8cm^2$
P = 14cm



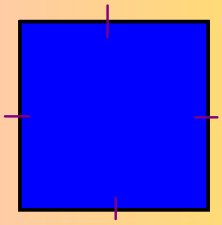
$A = 8cm^2$
P = 18cm



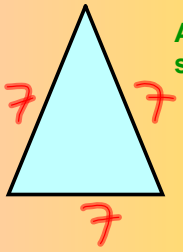
$A = 4cm^2$
P = 8cm

Perimeter

P=24cm



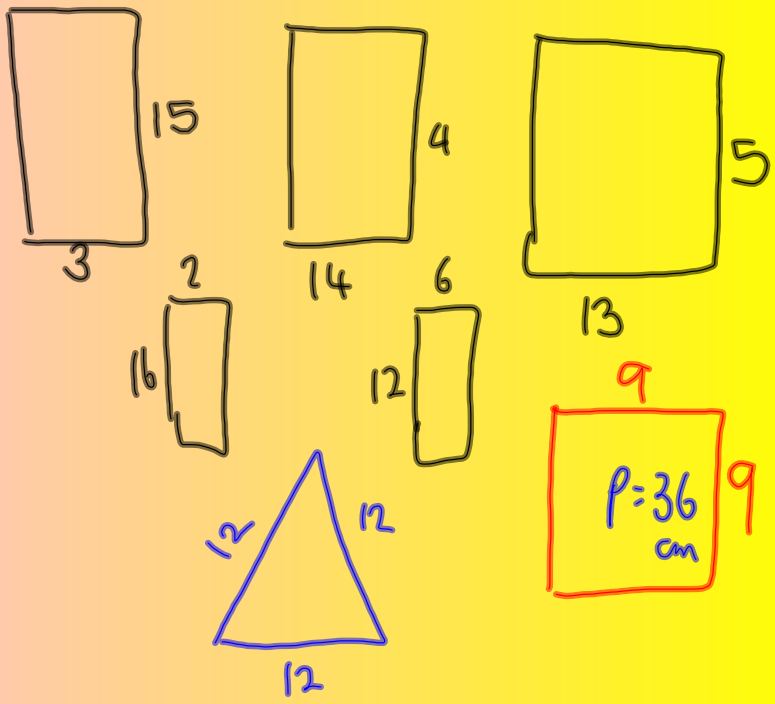
P=20cm



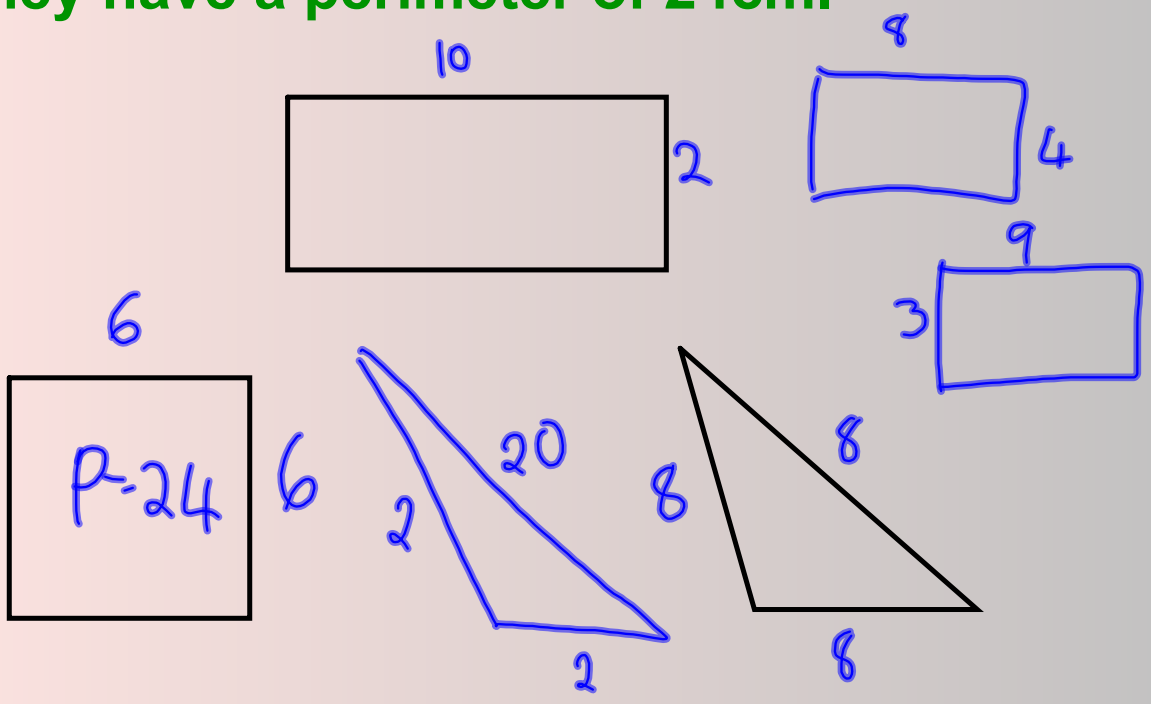
An equilateral triangle with sides 7cm

P=21cm

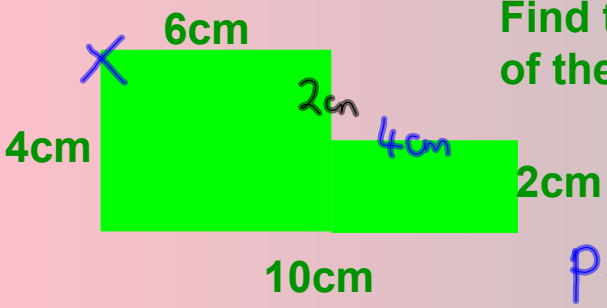
Draw a rectangle, square and triangle where each one has a perimeter of 36cm.



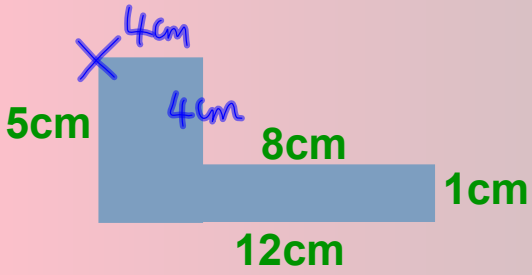
Give these shapes dimensions so that they have a perimeter of 24cm.



Find the perimeter of the shapes.



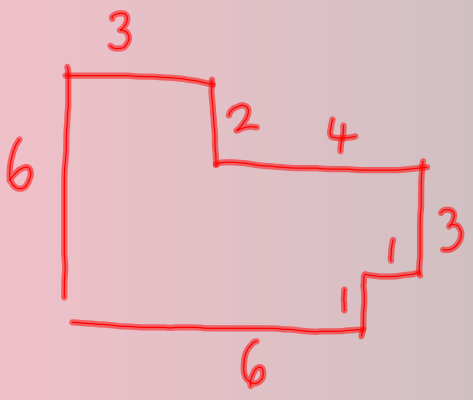
P = 6+2+4+2
+10+4
= 28cm



P = 34cm

Draw 3 shapes, made up of rectangles, with perimeter of 30cm.

I have 10m of fencing for a guinea pig run.
Draw some possible shapes I could make the run.

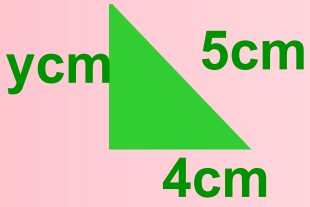


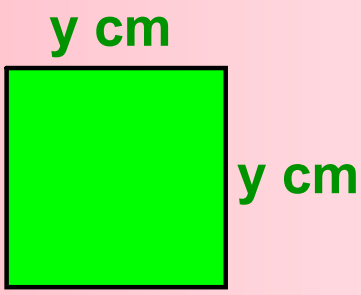
Write an expression for the perimeter of the rectangle.

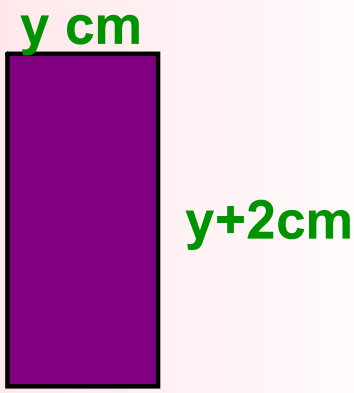
a) write an expression for the perimeter of the rectangle
b) What is the perimeter if y = 3cm

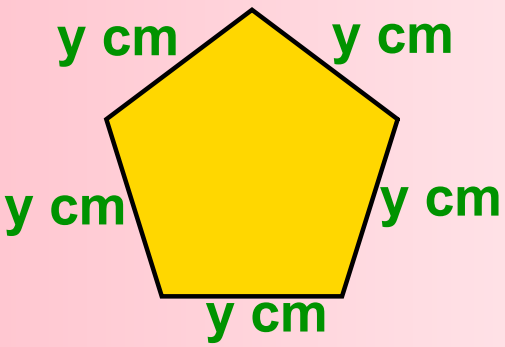
For each shape below
a) write an expression for the perimeter

b) What is the perimeter if y = 3cm

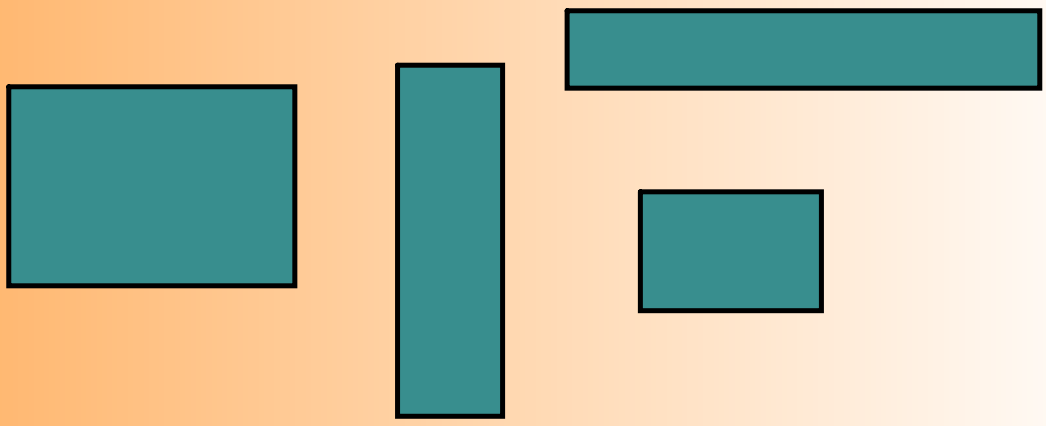








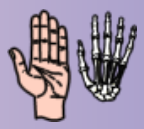
Draw 5 rectangles with perimeter of 20cm.



Can you find the shortcut?

Which of these has bigger area?

Put them in order starting with the smallest.



My poster

Your hand

The classroom door

Your exercise book

A football field

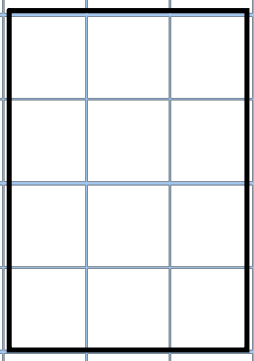
A bicycle wheel

les

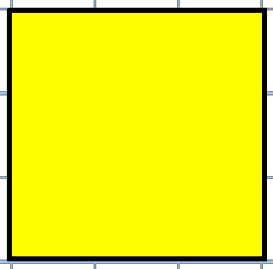
Find the area of these shapes.

1.

2.

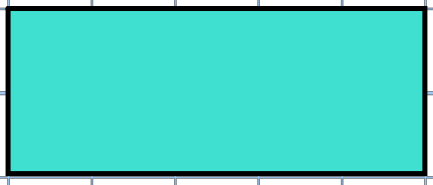


3.



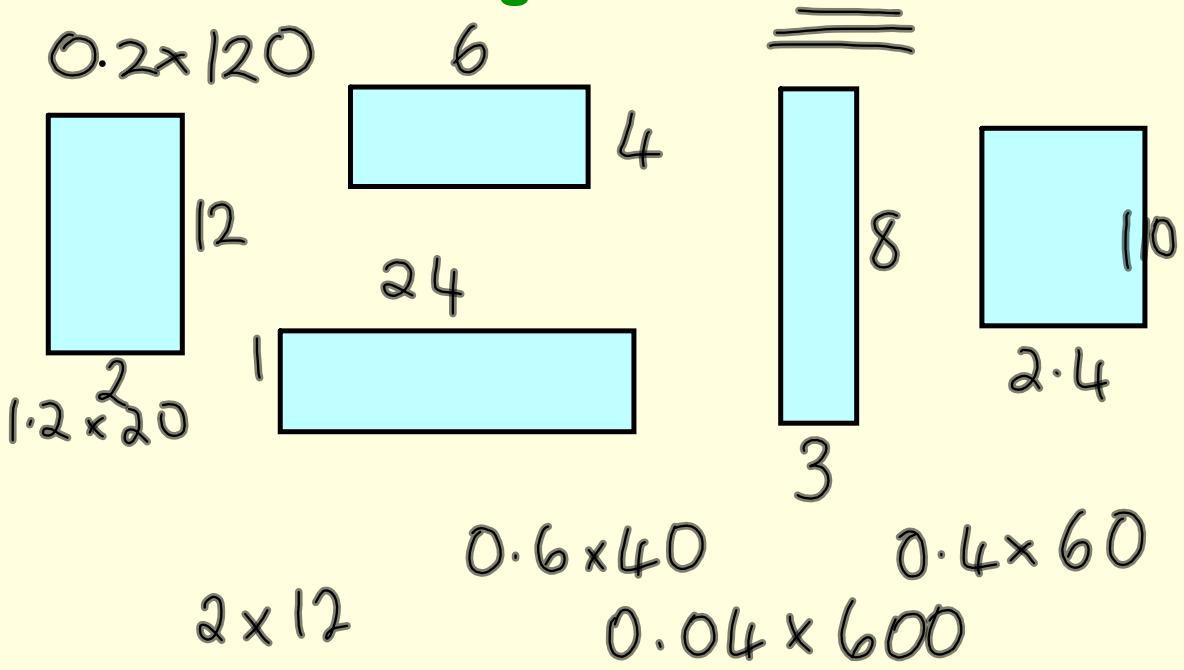
4.

5.



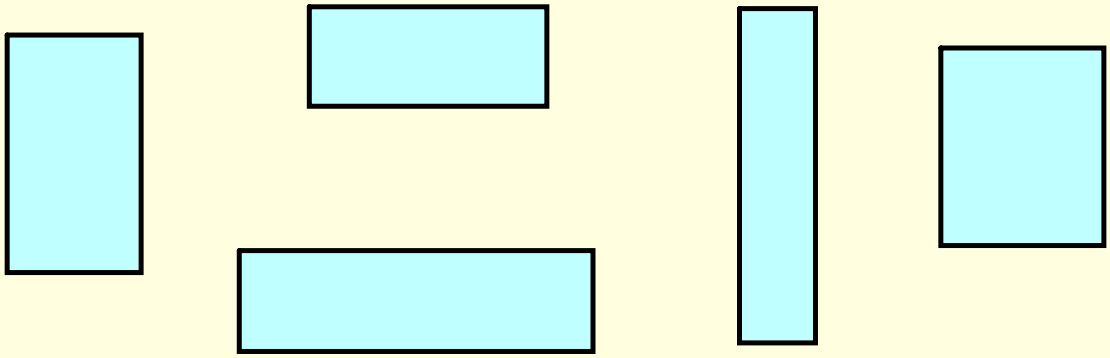
Area of a rectangle = length x width

Sketch 5 rectangles with area 24cm^2



Can you draw a square with area 24cm^2 ?

Sketch 5 rectangles with area 30cm^2



Can you draw a square with area 30cm^2 ?

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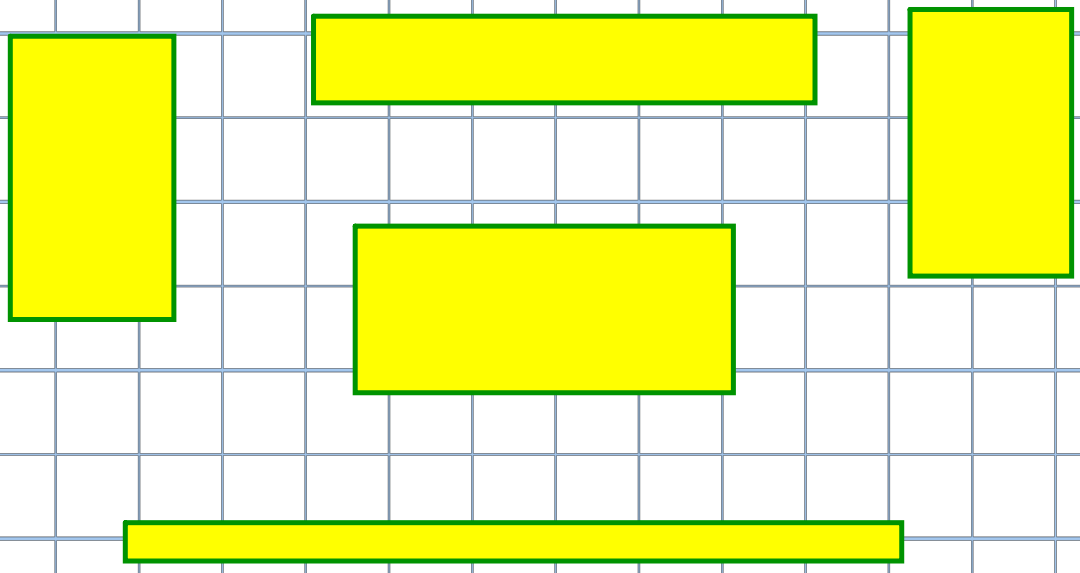
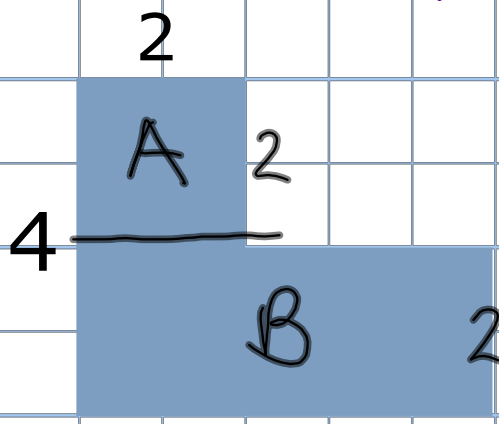
Homework

1. Draw 5 rectangles with area 40cm^2 (not to scale)

2. Draw 5 shapes with perimeter of 40cm (not to scale)



Area of compound shapes



Area of A = 4

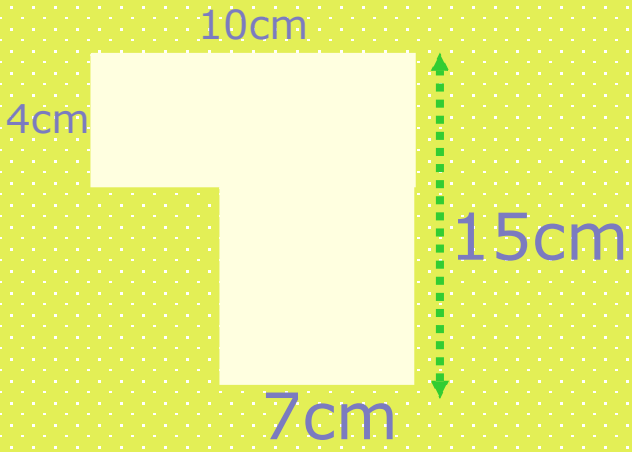
Area of B = 2 × 5 = 10

Total Area = 10 + 4 = 14

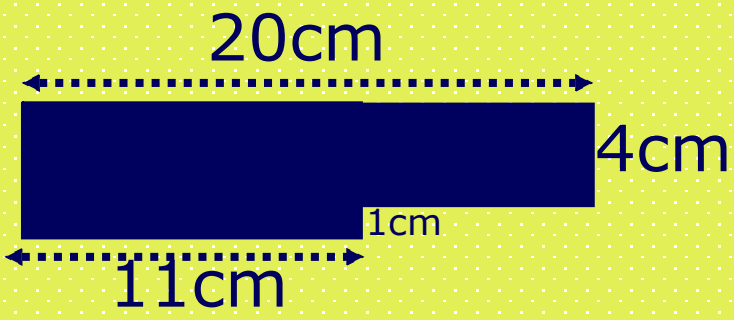
Make up a shape from rectangles with area 20cm^2.

Ask a friend to check it.

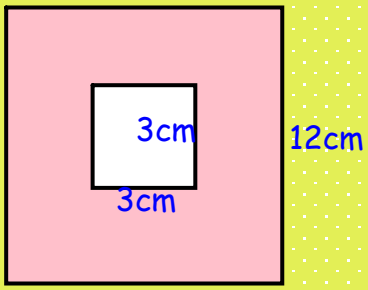
In your book draw a shape made up of rectangles with area 20cm^2.



Area of Compound Shapes

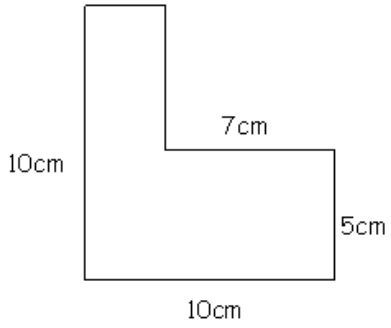


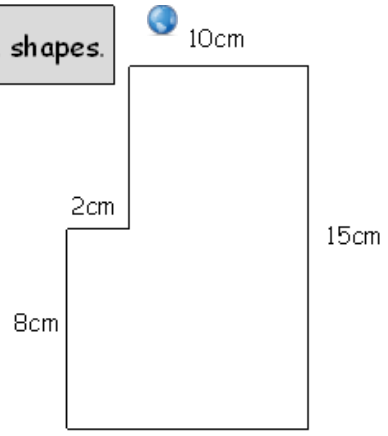
Find the area of the pink section

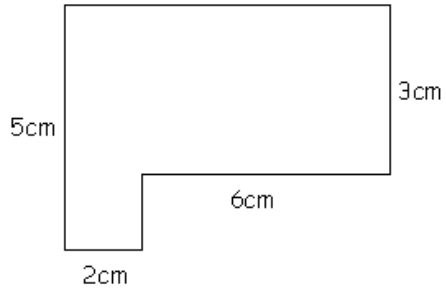


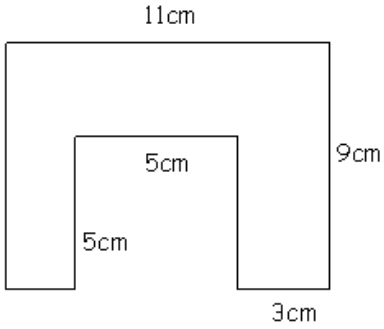
p102-103

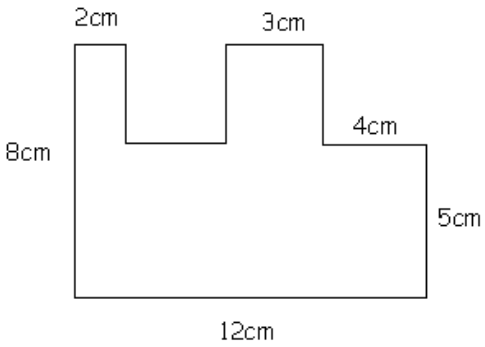
To calculate the area/perimeter of compound shapes.

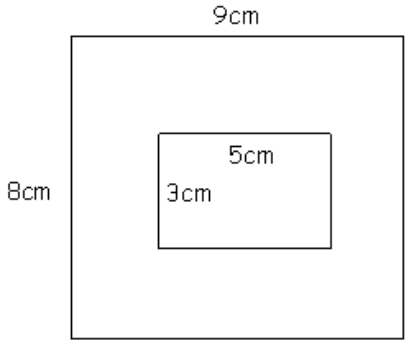




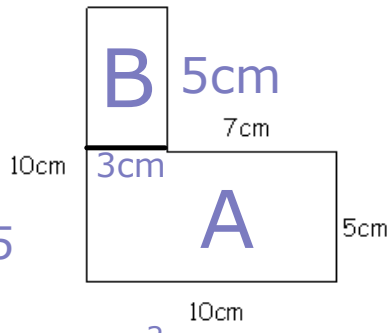




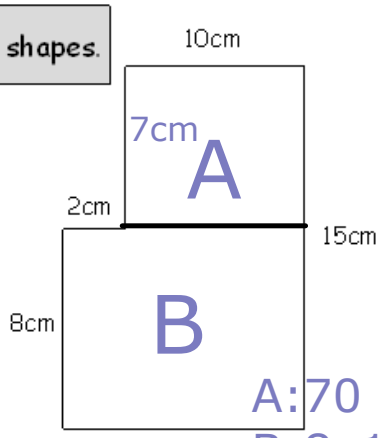




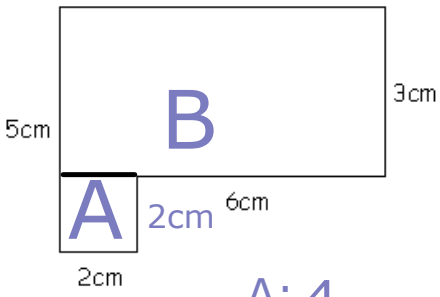
To calculate the area/perimeter of compound shapes.



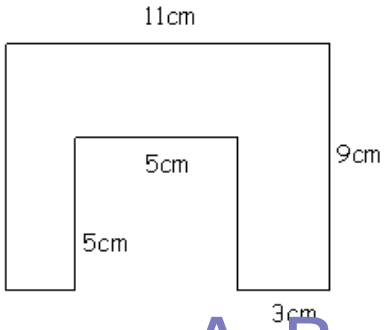
A: 15
B:50
A+B=65cm^2



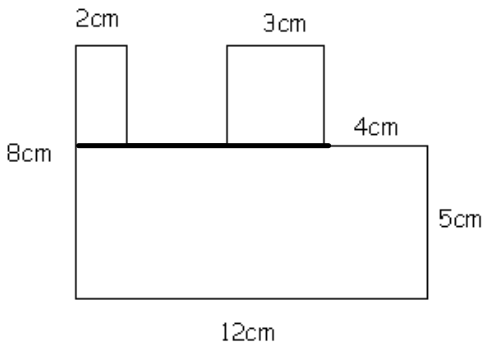
A:70
B:8x12=96
A+B=166cm^2

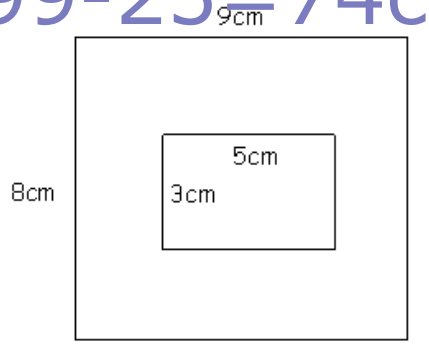


A: 4
B: 3x8=24
A+B=28cm^2



Area =A-B
99-25=74cm^2





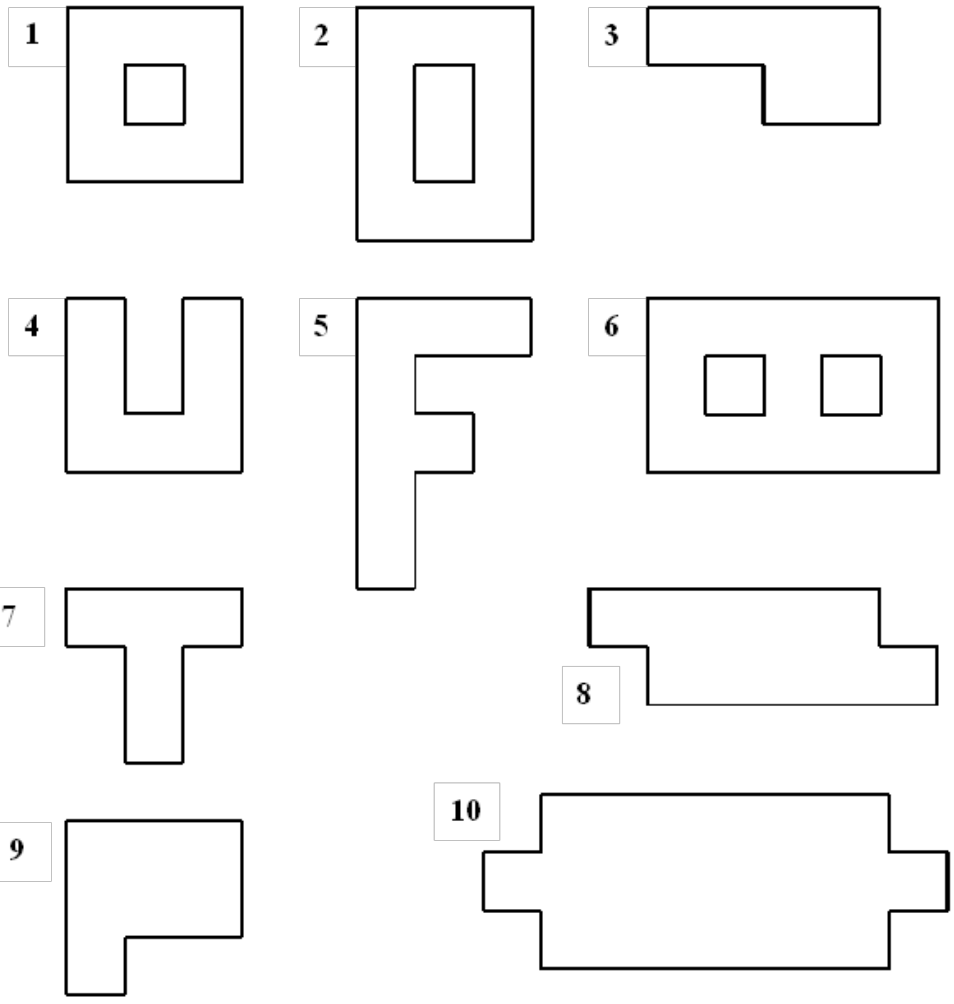
Name: _____ Date: _____

Area : Compound Shapes Measuring Edges 1

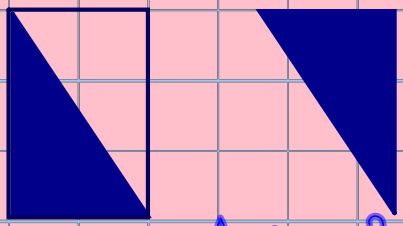
Measure the edges of the shapes below, split them into rectangles if you need to. Label the edges, then use your answers to calculate the area of each shape in cm^2.

Enter your answer in the space provided

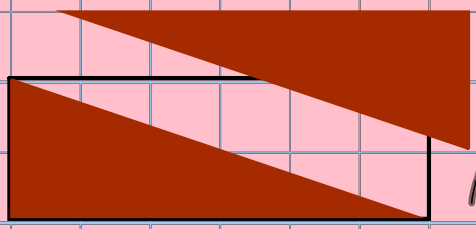
Shape Number	1	2	3	4	5	6	7	8	9	10
Area of Shape										



Area of Triangles



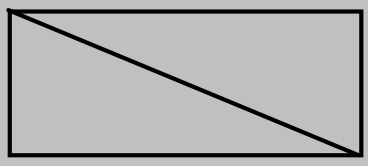
Area = 2 × 3 ÷ 2
= 3 cm²



Area = 6 × 2 ÷ 2
= 6 cm²

area of triangle = $\frac{1}{2}$ **area of a rectangle** = $\frac{1}{2}$ base × height

Cut a piece of paper in half.
Take one half and fold it carefully in half.
Draw and then cut out a rectangle. Stick one rectangle in your book. Write down its area.
Cut the other rectangle in half along a diagonal.

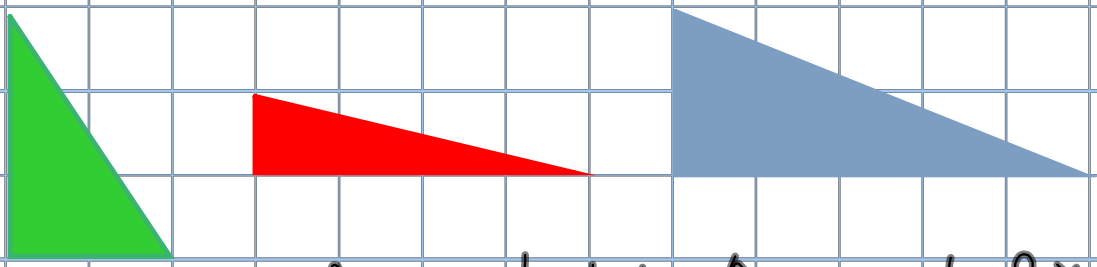


Stick the 2 triangles in your book and write down the area of one triangle.

Using the other half of your page do the same thing again, but use a different size rectangle.

Finding The Area of Triangles

Area of a triangle =



Area $= \frac{3 \times 2}{2}$

$= 6cm^2$

Area $= \frac{1}{2} \times 1 \times 4$

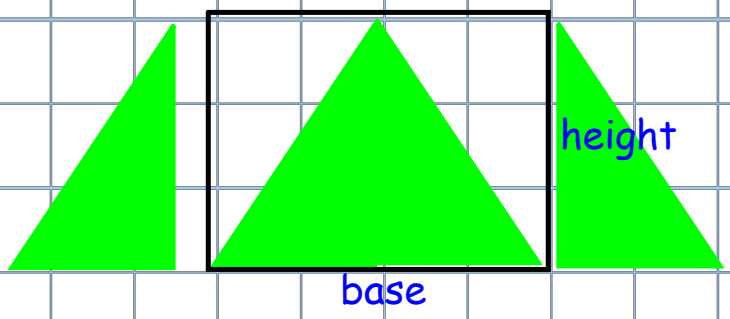
$= 2cm^2$

Area $= \frac{1}{2} \times 2 \times 5$

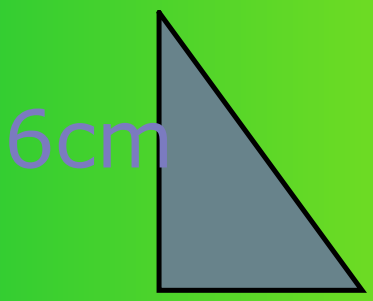
$= 5cm^2$

Worksheet

What about triangles without right angles?



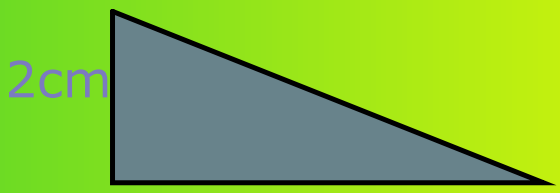
Area of triangles



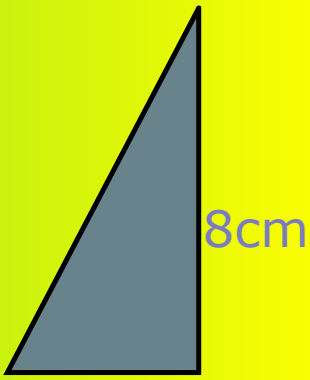
Area = $\frac{1}{2}$. b . h

= $\frac{1}{2}$ x 4 x 6

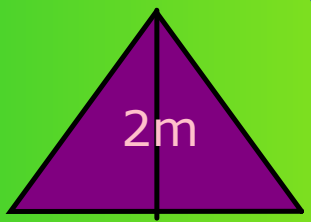
= 12cm^2



A = 10cm^2

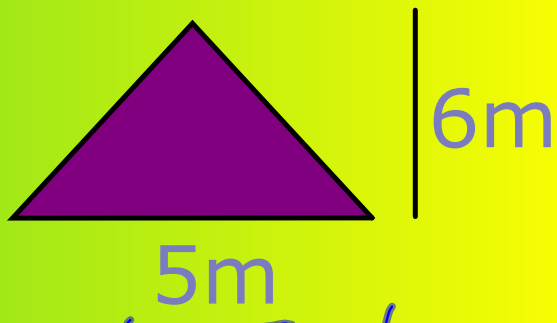


A = 20cm^2



$\frac{1}{2}$ x 6 x 2

= 6cm^2

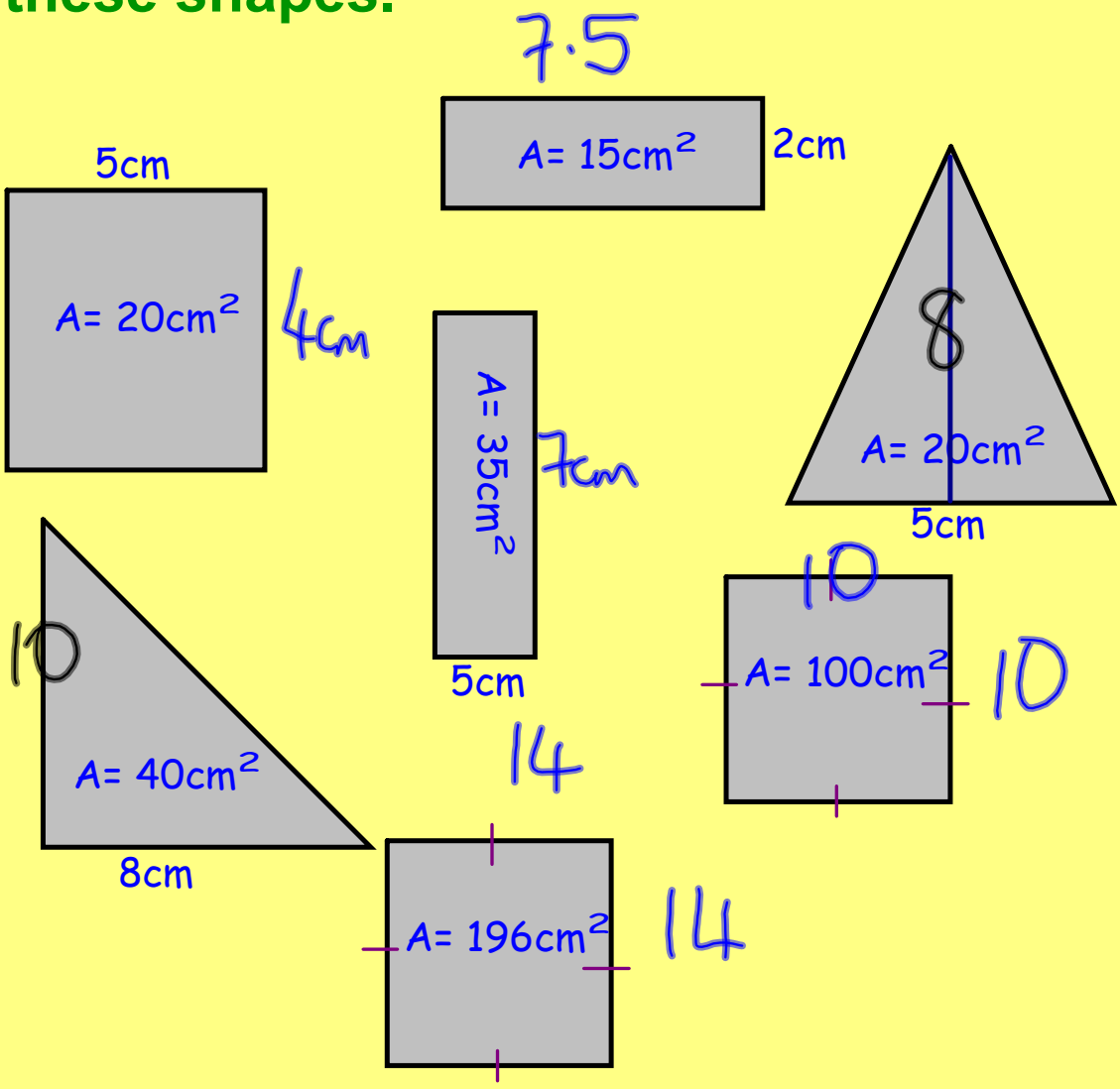


$\frac{1}{2}$ x 5 x 6

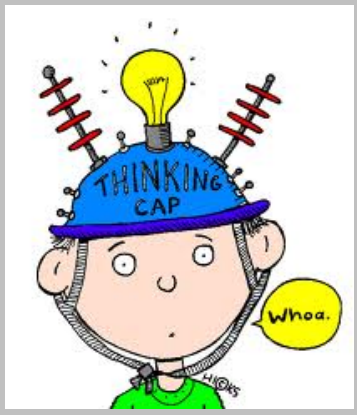
= 15cm^2

Can you sketch a triangle with area of 20cm^2?
Ask a friend to check it.

Find the lengths of missing sides in these shapes.

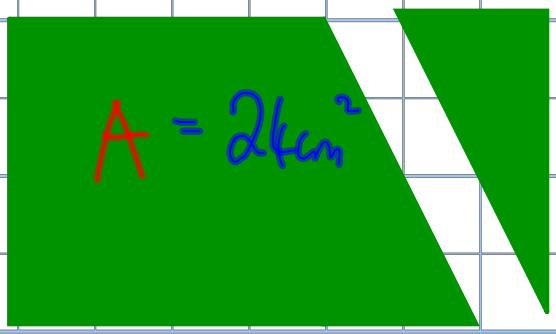


True or false?

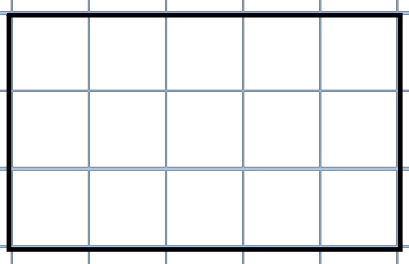


The number for the area of a rectangle is never equal to the number for the perimeter of a rectangle.

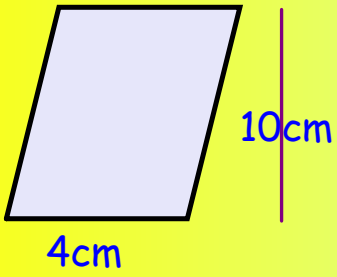
Area of Parallelograms



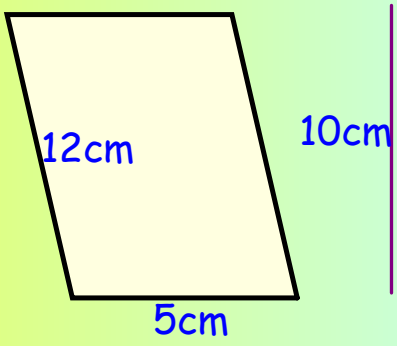
On squared paper cut out a rectangle.
Find its area.
Write the area inside the shape. Stick it in your book.
Draw a diagonal line from one corner to the opposite side.
Cut along the line and stick the extra bit on the other end to make a parallelogram.



Area of Parallelograms



Area = 4 x 10
= 40cm²



Area = 5 x 10

To find the area of the parallelogram you multiply together the two side lengths.

True or false?

Page 215 C4
Harder: p212 B2-B3

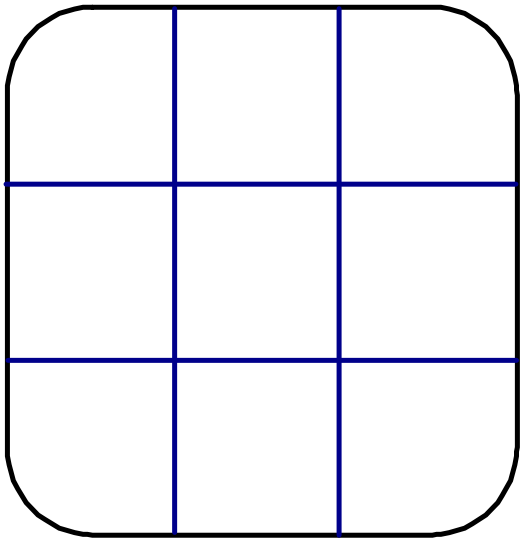
Exam questions on area.

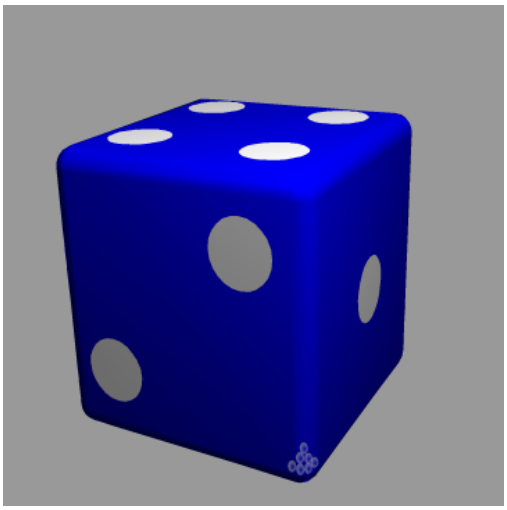
In groups of 3:

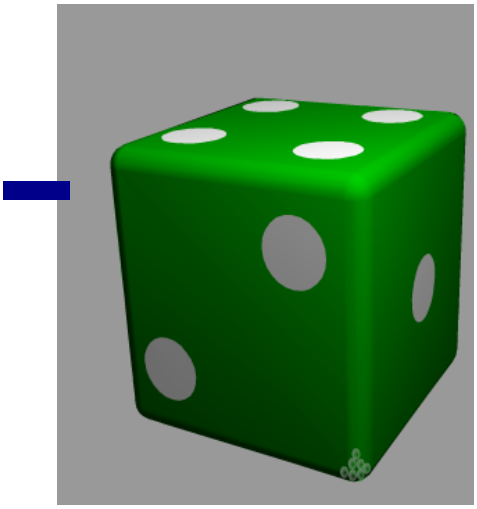
1. Place the cards in order of difficulty

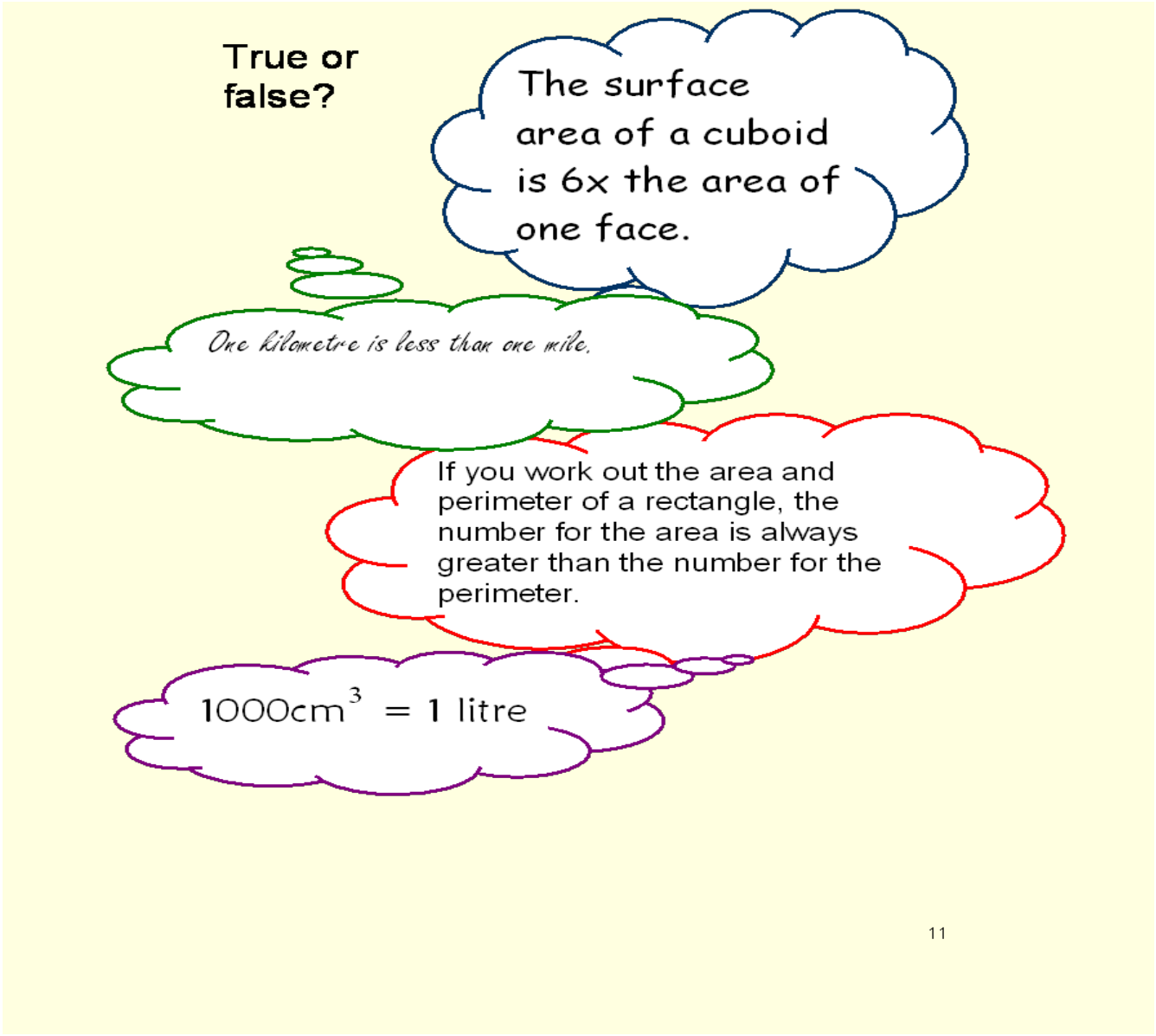
2. We will discuss the grades

3. Share them out and see how many you can do.



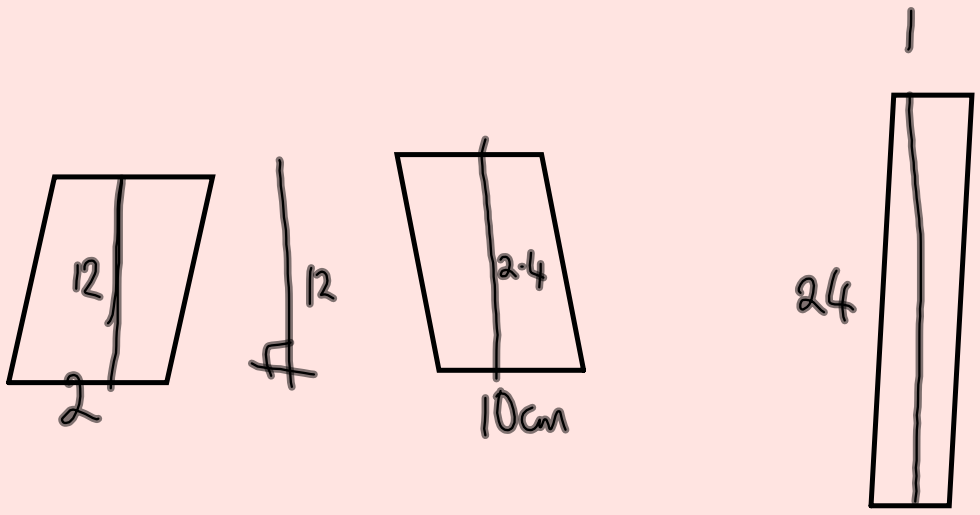




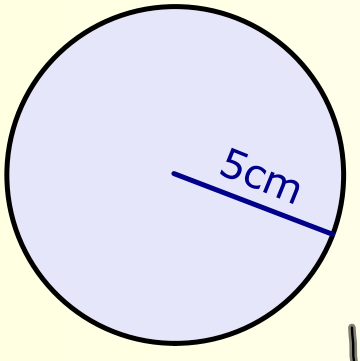

True or false?
The surface area of a cuboid is 6x the area of one face.
One kilometre is less than one mile.
If you work out the area and perimeter of a rectangle, the number for the area is always greater than the number for the perimeter.
1000cm^3 = 1 litre
11

Area

Draw 3 parallelograms with area 24cm^2



Area of a circle



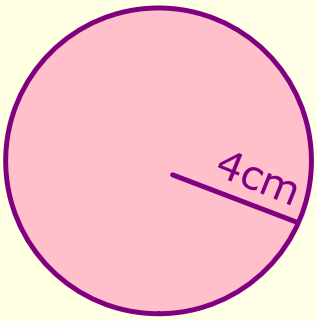
Area = πr^2

= π × radius × radius

1. $r = 5$

$A = \pi \times 5 \times 5$

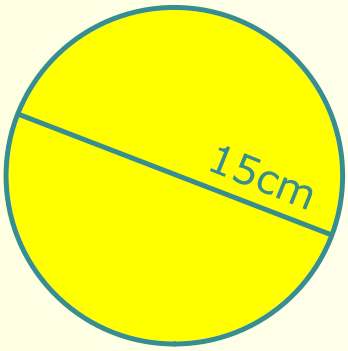
$= 78.5 cm^2$



2. radius = 4cm

$A = \pi \times 4 \times 4$

$= 50.3 cm^2$

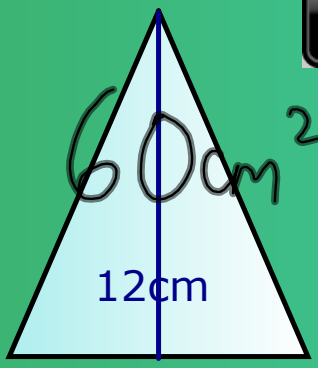


3. radius = 7.5cm

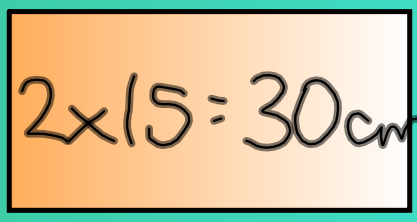
$A = \pi \times 7.5 \times 7.5$

$= 176.7 cm^2$

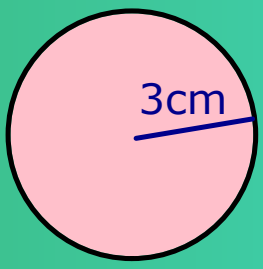
Find the area of each shape



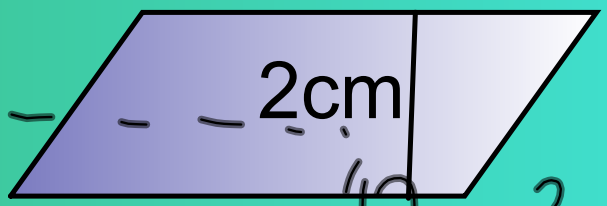
60cm²



2x15=30cm²



πx3x3=28cm²



12cm²

18+60
=78cm²

3cm

4cm

90-12=78cm²

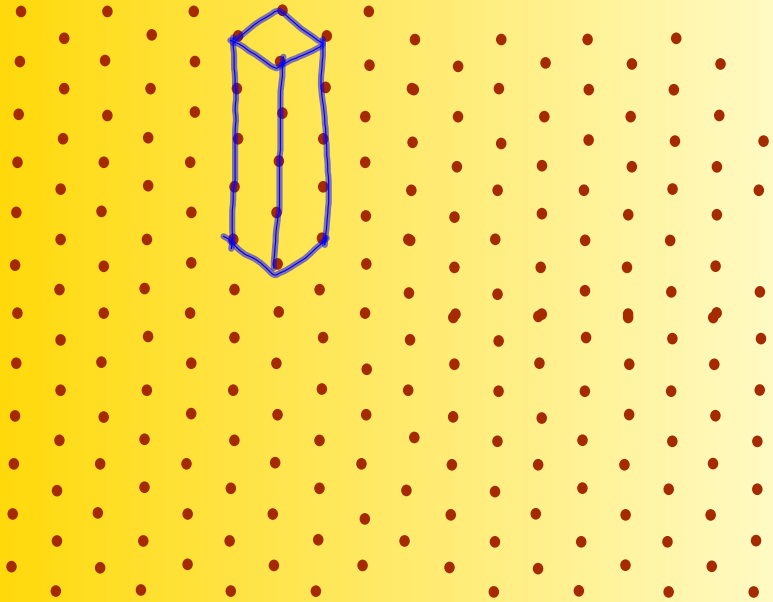
6cm

10cm

order cards

Drawing 3D shapes

Hint: make sure your paper is the right way up!



Draw as many 3D models as you can with 4 cubes.

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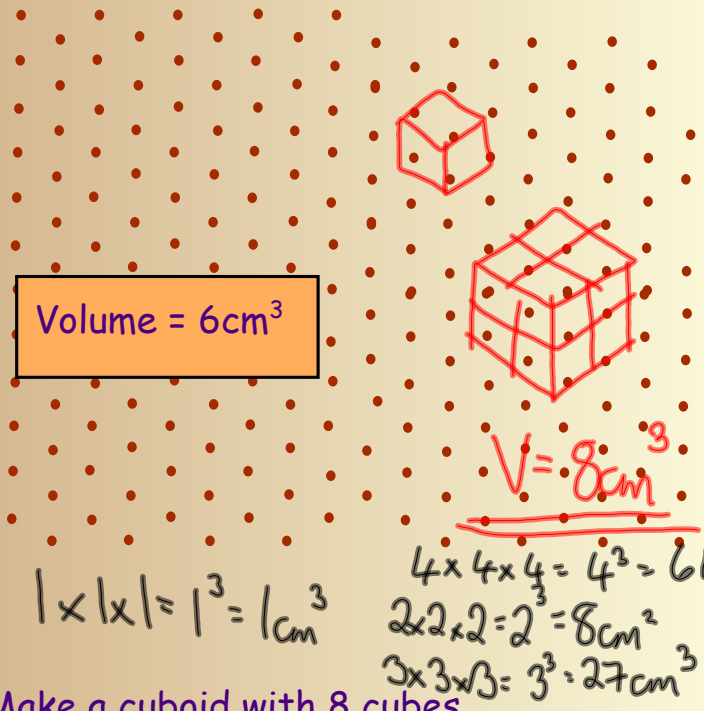
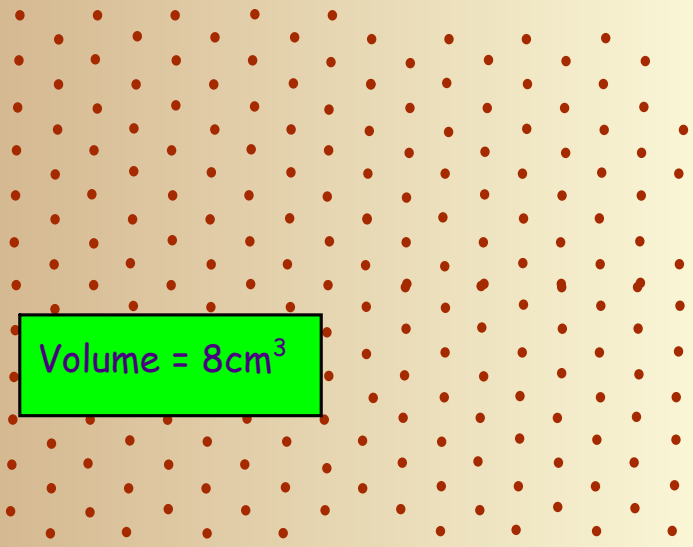
Make a cuboid with 6 cubes.
Draw it.
Now make a different one and draw it.



Make a cuboid with 8 cubes.
Draw it.
Now make a different one and draw it.

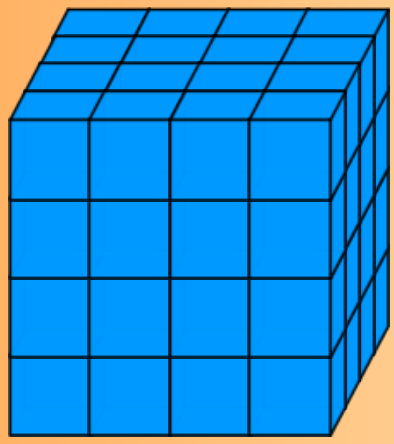


Make cuboids with volume $12cm^3$ and draw them.
(There are loads of different ones)

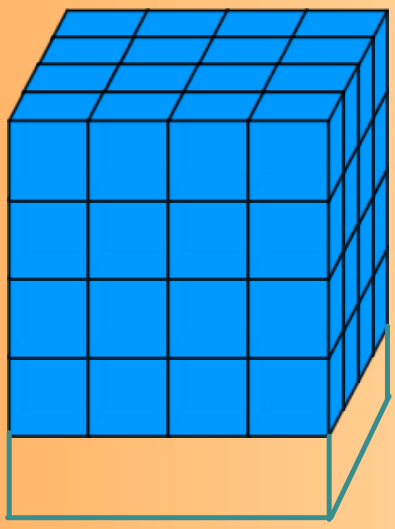
Volume

How many cubes all together?

Page 301- 302



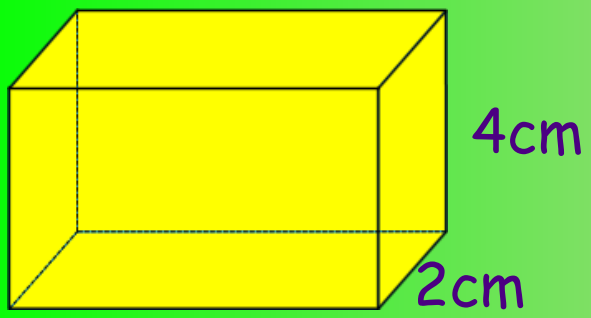
Volume=



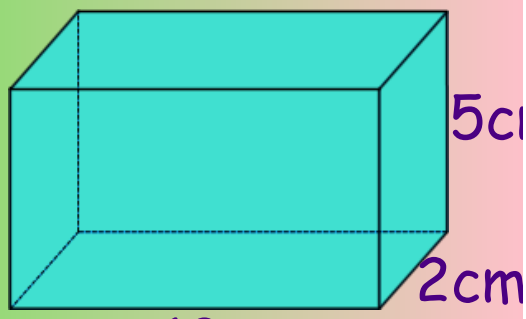
Volume=

Finding the volume of cuboids

Volume of a cuboid = length x widthx height

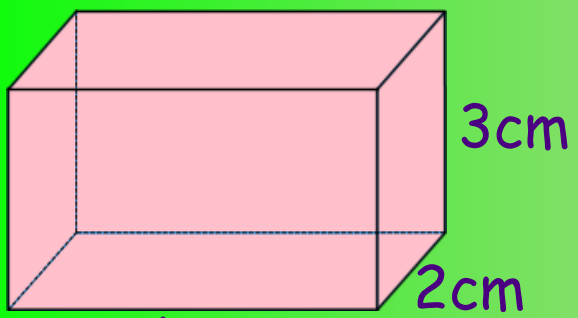


Volume =

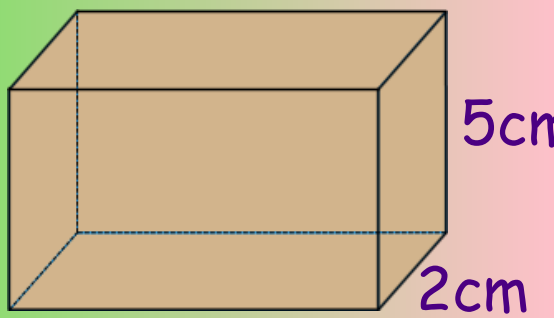


2)

Volume =



Volume =



Volume =

A cuboid has volume $60cm^3$.
What dimensions might it have?

• ·Use units of measurement to estimate, calculate and solve problems in everyday contexts involving length, area, volume, capacity, mass, time and angle; know rough metric equivalents of imperial measures in daily use (feet, miles, pounds, pints, gallons).
• ·Deduce and use formulae for the area of a triangle, parallelogram and trapezium; calculate areas of compound shapes made from rectangles and triangles.
• ·Know and use the formula for the volume of a cuboid; calculate volumes and surface areas of cuboids and shapes made from cuboids.
• ·Investigate in a range of contexts: measures.

Attachments

metric and imp units.ppt

area_compound_shapes.odt