LO: To identify properties of 2D shapes

Monday

Success Criteria

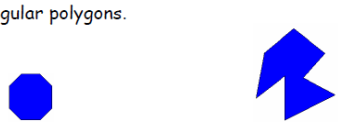
*** I can name basic 2d shapes**

**** I can discuss their properties**

*****I can define and identify key 2d shapes**

Regular Vs Irregular

regular	A 2D regular shape has all sides the same length and all angles the same. On a 3D regular shape, all of the faces are identical regular polygons.

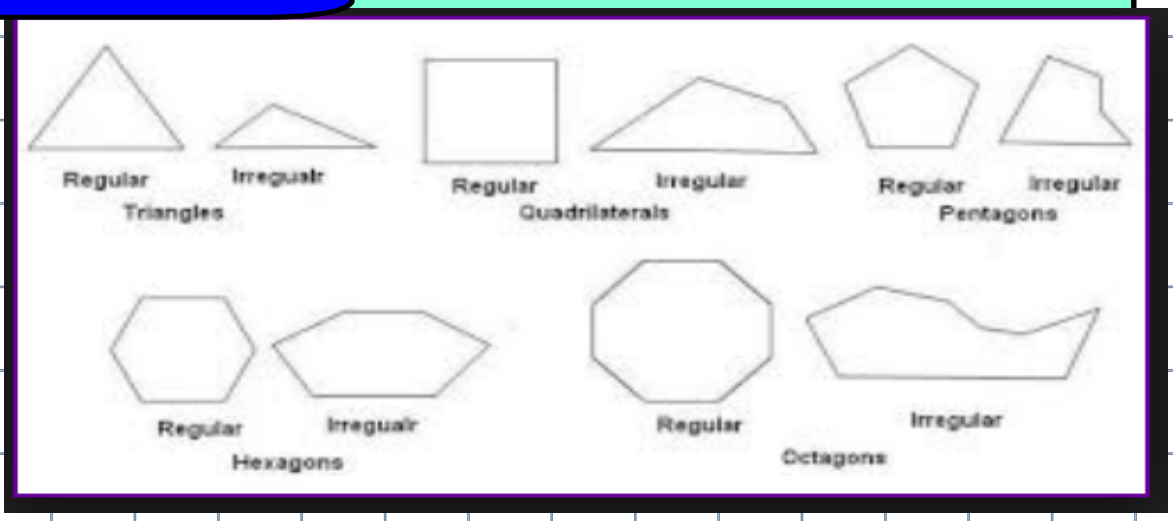


A regular octagon

An irregular octagon.

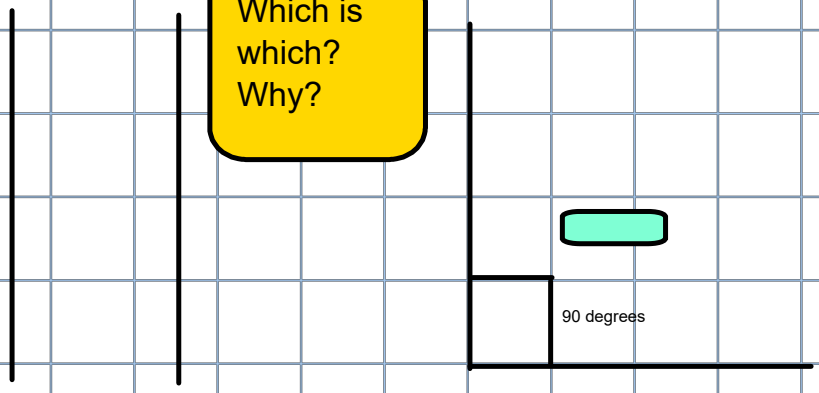
						
Circle	Equilateral triangle	Square	Pentagon	Hexagon	Heptagon	Octagon
This is a regular shape but not a polygon because it doesn't have straight sides.	Three equal length sides and three equal interior angles of 60°.	Four equal length sides and four interior angles of 90°	Five equal length sides and five interior angles of 108°	Six equal length sides and six interior angles of 120°	Seven equal length sides and seven interior angles of 128.57°	Eight equal length sides and eight interior angles of 135°

Regular Vs Irregular

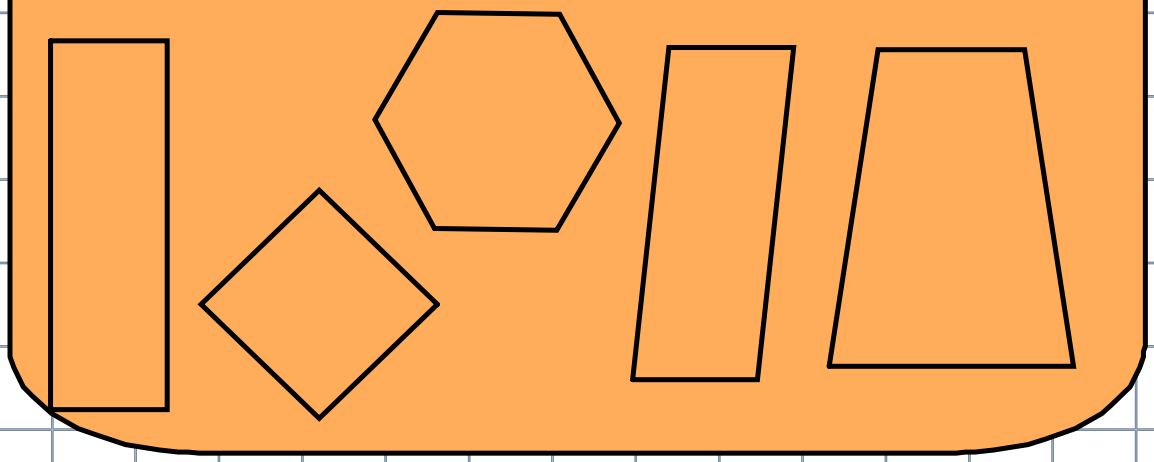


Parallel and Perpendicular

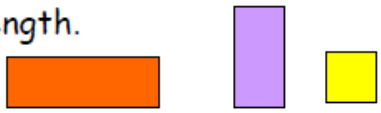
Which is which? Why?

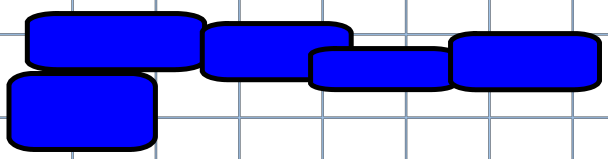


How many parallel pairs and how many perpendicular pairs?

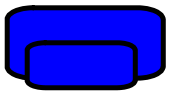


Let's talk through our 2d shapes. This should just be a reminder

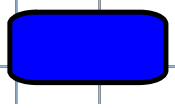
square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles.  Ensure that children see squares in various rotations.
rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length. 

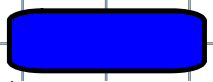


oblong 	A quadrilateral with four right angles and two pairs of equal parallel sides with each pair different in length. (A rectangle in which one pair of edges is longer than the other - the other form of rectangle being a square). 

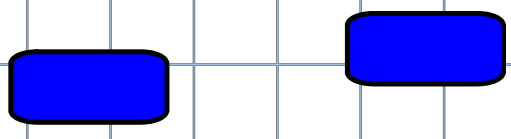
star	A star has points coming out of the centre.
	

For the next few shape types, what do you notice about the end of the word?



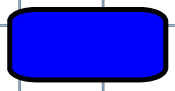


pentagon	A pentagon has 5 straight sides and 5 corners.



hexagon	A hexagon has 6 straight sides and 6 corners. 

heptagon or a septagon	A heptagon has 7 straight sides and 7 corners. 



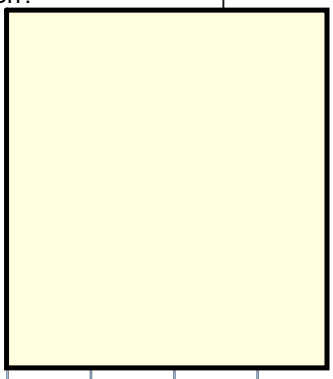
octagon	An octagon has 8 straight sides and 8 corners. 

Task 1: Pause the video, copy the table and fill in the names of the shapes - Spellings must be correct. There are a couple we have not covered. How could you find them out?

polygon

Any flat shape with three or more straight sides.
When all the sides and angles of a polygon are equal, it is called a regular polygon.

What is a polygon?



No. of sides	Name of polygon
3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon septagon
8	octagon
9	nonagon
10	decagon
11	hendecagon
12	dodecagon

Task 2

Write a definition and draw examples for the following

Polygon

Quadrilateral

Irregular shape.

Rectangle/square/oblong

Parallel lines

Perpendicular lines

Task 3: Bonus challenge

Draw a picture (perhaps a landscape or self portrait or just random!), which has the following:

3 regular quadrilaterals

6 Irregular shapes.

5 sets of parallel line

4 sets of perpendicular lines

3 octagons

1 decagon

Tuesday : Division

Division 2do

Bonus division questions (see pdf)

Bonus challenge (see overview document)

$324 \div 6 =$

6
12
18
24
30
36
42
48
54
60
66
72

$$6 \overline{)3^{3}2^{2}4} \quad 54$$

$868 \div 14 =$

14
28
42
56
70
84
98
112
126
140

$$14 \overline{)868}$$

$$062$$

868 ÷ 14 =

```
      062
   14|868
     84
     ---
      28
```

14
28
42
56
70
84
98
112
126
140

57,868 ÷ 14 =

14
28
42
56
70
84
98
112
126
140

4133 r 6

14 | 57,868

56

18

14

46

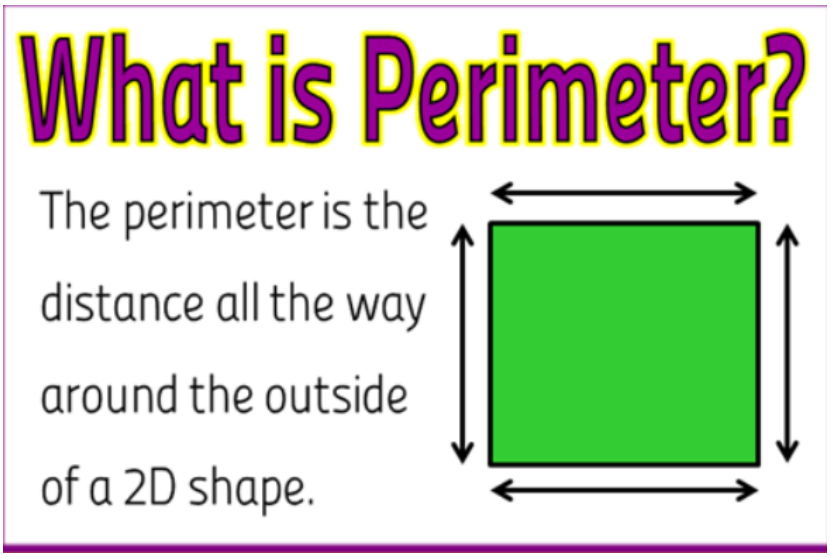
42

48

42

6

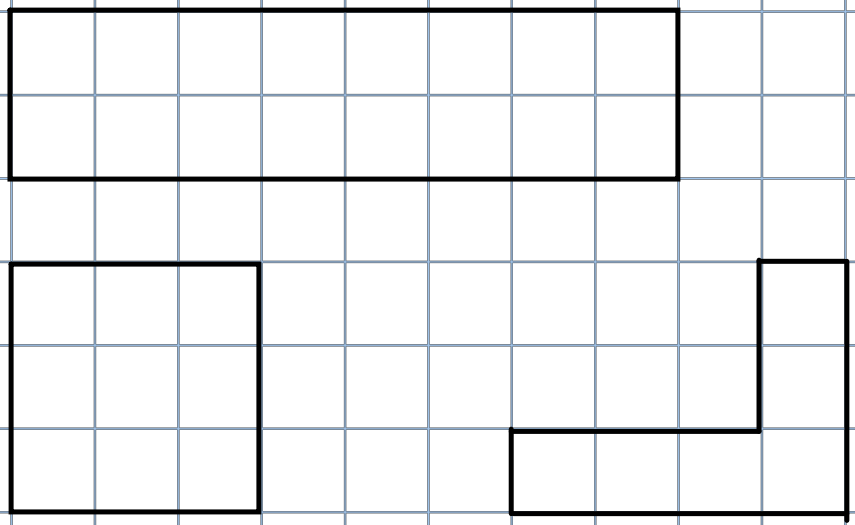
LO: Measure the **perimeter** and **area** of 2D shapes.



Wednesday

https://www.bbc.com/bitesize/articles/zsr4k7h

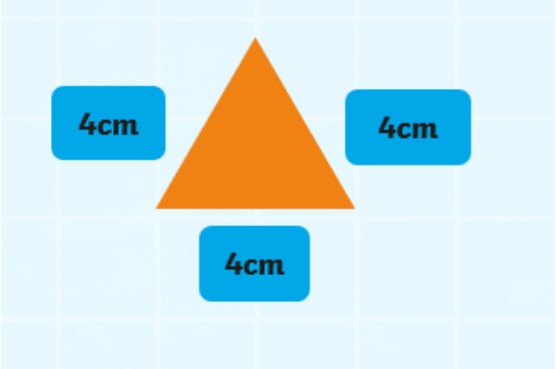
LO: Measure the **perimeter** of simple 2D shapes.



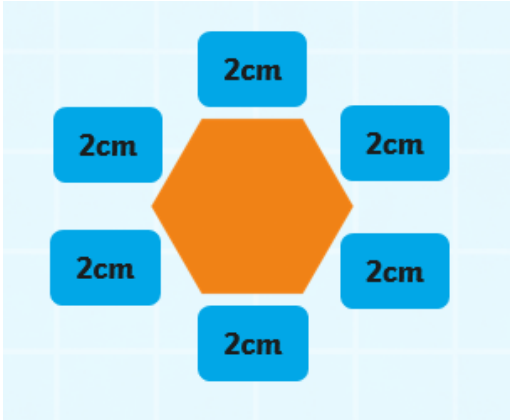
To measure perimeter, I measure all the way around the edge of a shape.

LO: Measure the **perimeter** of simple 2D shapes.

To measure perimeter, I measure all the way around the edge of a shape.

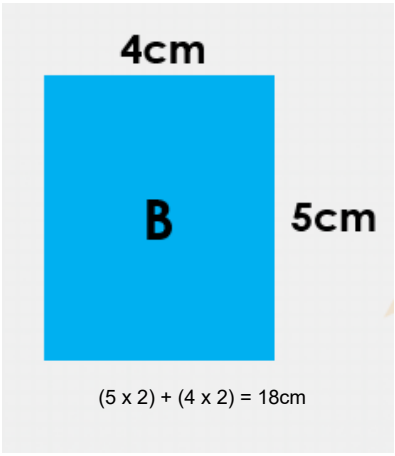


4 x 3 = 12cm



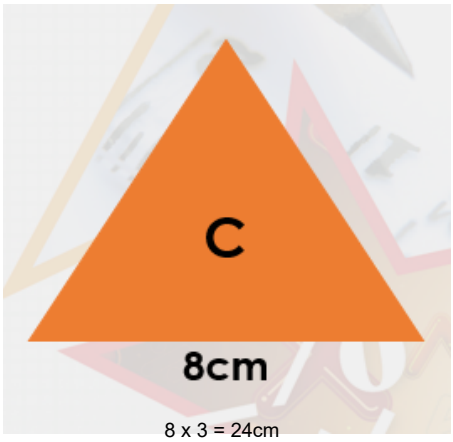
6 x 2 = 12cm

LO: Measure the **perimeter** of simple 2D shapes.



(5 x 2) + (4 x 2) = 18cm

equilateral triangle

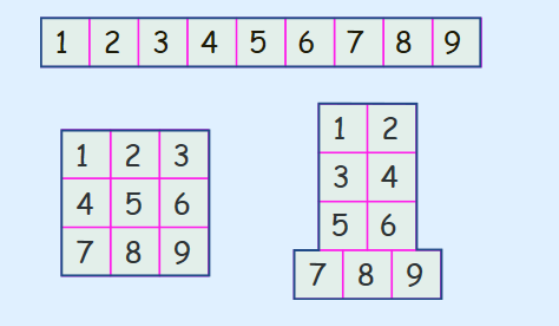


8 x 3 = 24cm

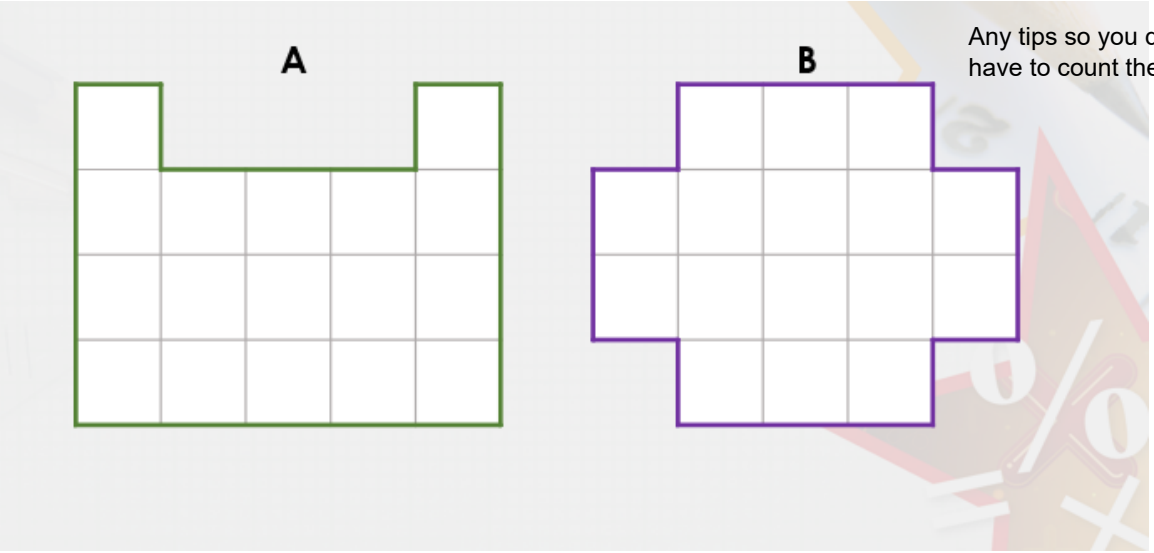
Area is the number of square units inside a shape.

area

These shapes all have an area of 9 square units.



What is the area of these shapes in sq units?



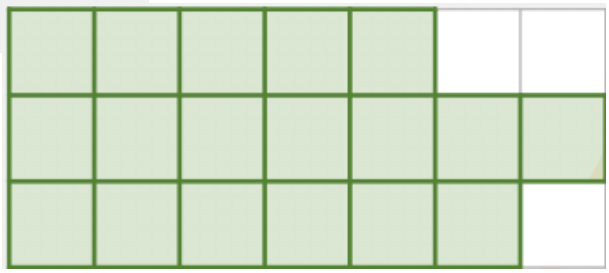
Any tips so you don't just have to count them all?

LO: Find the area of rectilinear shapes by counting squares

Each square is $1cm^2$

= $1cm^2$

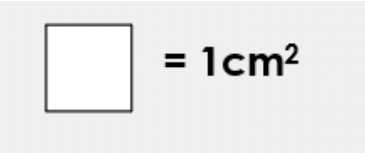
What is the area of this shape?



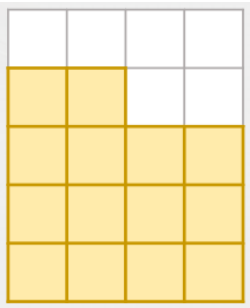
$15cm^2$ $18cm^2$ $21cm^2$

LO: Find the area of rectilinear shapes by counting squares

Each square is $1cm^2$

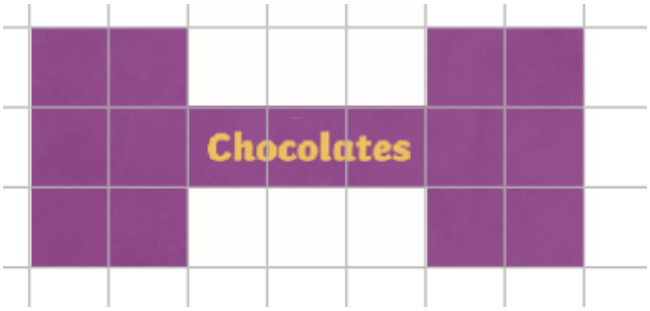


What is the area of this shape?



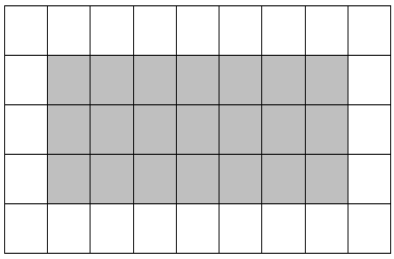
LO: Find the area of rectilinear shapes by counting squares

Area = 15cm^2 Perimeter = 24cm



2. How many different chocolate boxes can you draw with an area of 9 cm^2 ? Draw them neatly in your book and record the area and perimeter for each one. Does the perimeter stay the same?

Here is a rectangle on a **centimetre** (cm) grid.

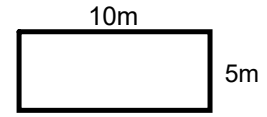


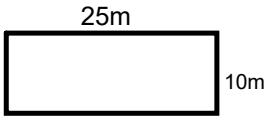
What is the area of the rectangle? .....cm²

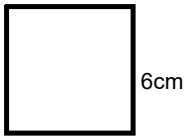
What is the perimeter of the rectangle? .....cm

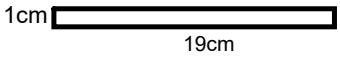
Did you count the squares? Is there a better way?

Area for a rectangle = L x W









What the formula for area? LxW

Who can think of a formula for perimeter?

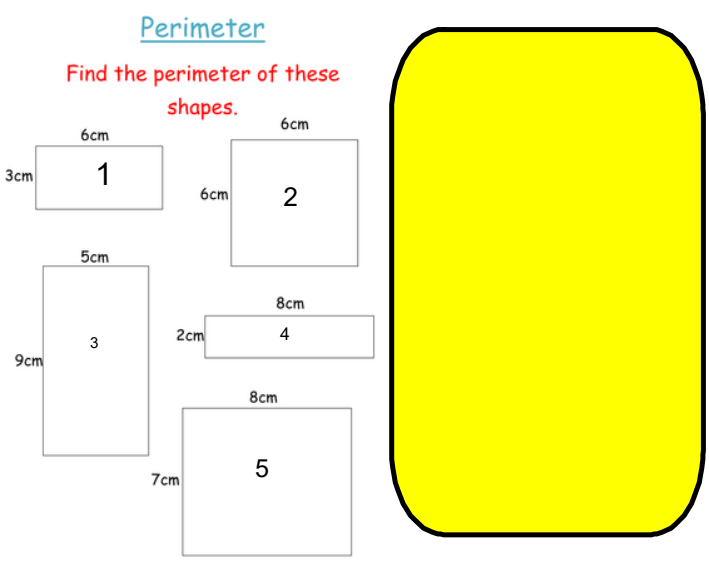
L + L + W +W (L x 2) + (W x 2)

(L + W) x 2

Which one do you use?

* Task 1

1) A = 18cm^2
P = 18cm
2) A = 36cm^2
P = 24cm
3) A = 45cm^2
P = 28cm
4) A = 16cm^2
P = 20cm
5) A= 56cm^2
P = 30cm



** Task 2

1) P = 24cm

A = 32cm^2

2) A = 20cm^2

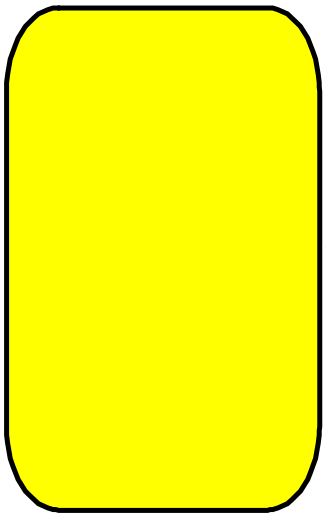
P = 24cm

3) A = 28cm^2

P = 22cm

4) A = 25cm^2

P = 20cm



Missing information

1) 4cm, 8cm — Perimeter = _____ Area = _____

2) ?, 10cm — Area = 20cm^2 Perimeter = _____cm

3) 4m, ? — Area = 28m^2 Perimeter = _____m

4) Square 5cm — Area = ____cm^2 Perimeter = _____cm

***Task 3

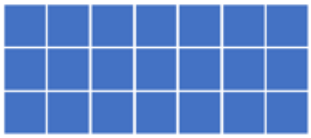
optional, you can just draw

Draw and email in your solution or put in your folder

For this task you will need some small squares.

Make a rectangle with an area of 24 squares.
Make the perimeter as large as possible.

Example:



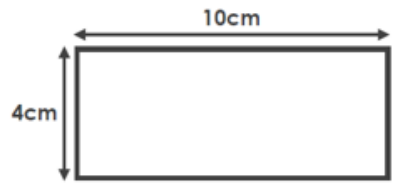
Area of this shape = 21 squares

Perimeter of this shape = 20

***Task 4

Draw and email in your solution or put in your folders

EXTEND



*Draw a rectangle with a **larger area and a smaller perimeter** than this rectangle. Label the length and width of your rectangle.*

L.O: To find the area of composite shapes

Thursday

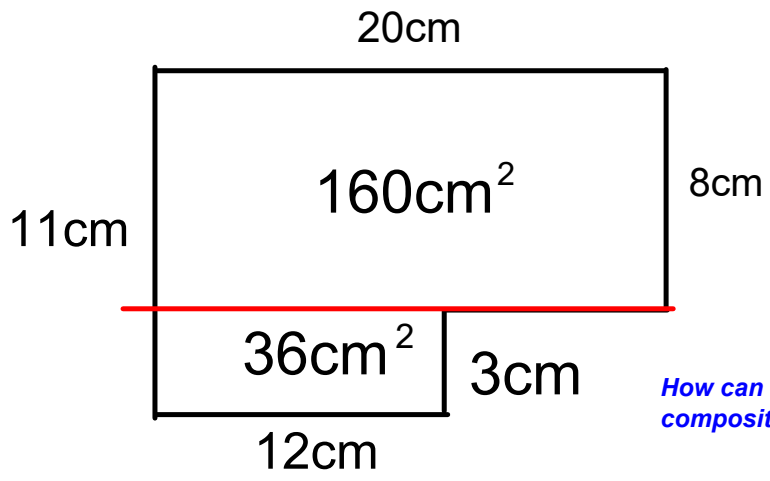
Times table starter: Choose one a time. (find pfd)

Number of Questions: **99**
Testing: **3×**, **4×**, **5×**, **6×**, **7×**, **8×**, **9×**, **10×**, **11×**, **12×** (with **inverse**)

27 ÷ 9 = ____	11 × 11 = ____	84 ÷ 7 = ____	42 ÷ 7 = ____	28 ÷ 4 = ____
96 ÷ 8 = ____	50 ÷ 10 = ____	48 ÷ 12 = ____	28 ÷ 7 = ____	72 ÷ 12 = ____
5 × 2 = ____	2 × 4 = ____	88 ÷ 8 = ____	3 × 5 = ____	10 × 4 = ____
132 ÷ 11 = ____	56 ÷ 8 = ____	4 × 7 = ____	5 × 9 = ____	4 × 3 = ____
2 × 6 = ____	8 × 5 = ____	144 ÷ 12 = ____	18 ÷ 6 = ____	2 × 8 = ____
12 × 8 = ____	12 × 1 = ____	110 ÷ 11 = ____	12 × 5 = ____	30 ÷ 6 = ____
10 × 7 = ____	3 × 10 = ____	10 × 3 = ____	72 ÷ 6 = ____	5 × 4 = ____
54 ÷ 6 = ____	11 × 4 = ____	10 × 1 = ____	7 × 5 = ____	5 × 11 = ____
4 × 5 = ____	99 ÷ 9 = ____	9 × 3 = ____	121 ÷ 11 = ____	1 × 4 = ____
12 × 4 = ____	7 × 4 = ____	12 × 11 = ____	3 × 2 = ____	9 × 12 = ____
45 ÷ 5 = ____	80 ÷ 8 = ____	90 ÷ 9 = ____	3 × 12 = ____	7 × 10 = ____
42 ÷ 6 = ____	6 × 8 = ____	7 × 3 = ____	27 ÷ 3 = ____	12 × 4 = ____
7 × 11 = ____	10 × 10 = ____	12 × 3 = ____	10 × 9 = ____	9 × 4 = ____
60 ÷ 10 = ____	12 ÷ 3 = ____	55 ÷ 11 = ____	11 × 1 = ____	11 × 6 = ____
5 × 6 = ____	10 × 8 = ____	4 × 5 = ____	4 × 6 = ____	15 ÷ 3 = ____
20 ÷ 4 = ____	3 × 6 = ____	12 × 10 = ____	1 × 7 = ____	21 ÷ 3 = ____
12 × 8 = ____	12 × 9 = ____	8 × 5 = ____	12 ÷ 12 = ____	2 × 3 = ____
10 × 8 = ____	33 ÷ 11 = ____	40 ÷ 4 = ____	6 ÷ 3 = ____	8 × 3 = ____
6 × 5 = ____	3 × 5 = ____	7 × 7 = ____	12 × 3 = ____	3 × 6 = ____

Number of Questions: **99**
Testing: **3×**, **4×**, **5×**, **6×**, **7×**, **8×**, **9×**, **10×**, **11×**, **12×**, **13×**, **14×**, **15×**, **16×**, **17×**, **18×**, **19×**, **20×** (with **inverse**)

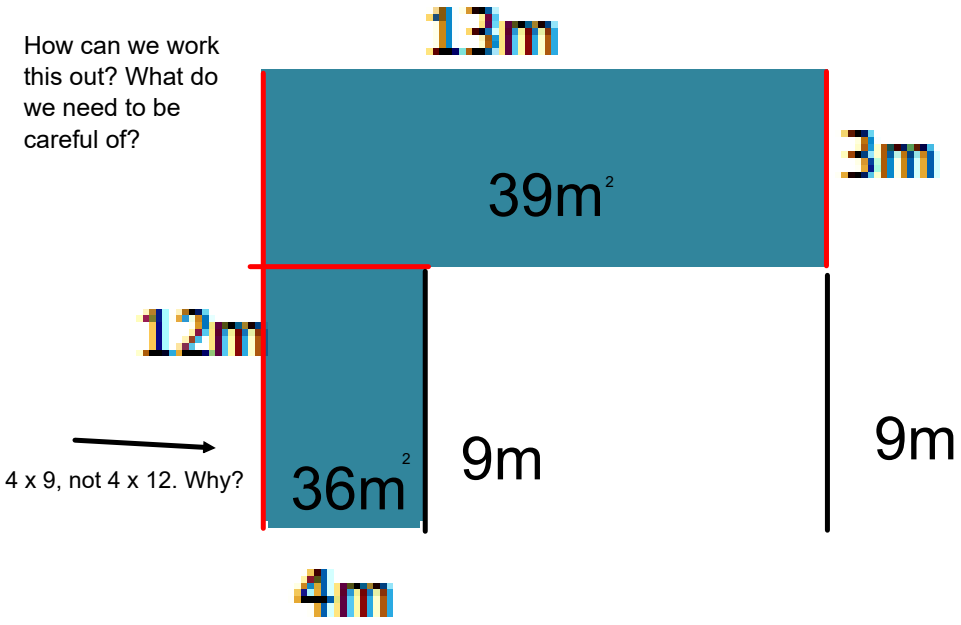
5 × 5 = ____	7 × 18 = ____	54 ÷ 6 = ____	14 × 8 = ____	4 × 12 = ____
60 ÷ 5 = ____	13 × 9 = ____	10 × 19 = ____	72 ÷ 12 = ____	126 ÷ 14 = ____
10 × 16 = ____	10 × 9 = ____	1 × 14 = ____	8 × 1 = ____	9 × 19 = ____
15 × 9 = ____	84 ÷ 7 = ____	19 ÷ 19 = ____	108 ÷ 12 = ____	12 × 4 = ____
20 × 5 = ____	120 ÷ 10 = ____	70 ÷ 10 = ____	9 × 3 = ____	143 ÷ 13 = ____
6 × 8 = ____	14 × 6 = ____	14 × 10 = ____	13 × 6 = ____	10 × 8 = ____
10 × 11 = ____	132 ÷ 11 = ____	18 × 2 = ____	1 × 18 = ____	110 ÷ 10 = ____
17 × 12 = ____	6 × 1 = ____	40 ÷ 4 = ____	20 × 3 = ____	117 ÷ 13 = ____
5 × 7 = ____	8 × 18 = ____	12 ÷ 12 = ____	9 × 12 = ____	19 × 7 = ____
66 ÷ 11 = ____	44 ÷ 4 = ____	13 ÷ 13 = ____	15 × 1 = ____	20 ÷ 10 = ____
6 × 14 = ____	5 × 3 = ____	77 ÷ 7 = ____	8 × 10 = ____	144 ÷ 16 = ____
152 ÷ 19 = ____	3 × 15 = ____	36 ÷ 12 = ____	9 × 8 = ____	48 ÷ 16 = ____
1 × 20 = ____	11 × 4 = ____	3 × 4 = ____	12 × 8 = ____	4 × 14 = ____
11 × 5 = ____	6 × 12 = ____	12 × 7 = ____	10 × 6 = ____	4 × 4 = ____
3 × 13 = ____	5 × 4 = ____	7 × 13 = ____	4 × 8 = ____	6 × 7 = ____
65 ÷ 13 = ____	14 × 7 = ____	5 × 2 = ____	4 ÷ 4 = ____	126 ÷ 18 = ____
12 × 5 = ____	5 × 1 = ____	33 ÷ 3 = ____	14 × 3 = ____	48 ÷ 6 = ____
50 ÷ 10 = ____	12 × 18 = ____	19 × 1 = ____	9 × 10 = ____	119 ÷ 17 = ____
7 × 12 = ____	50 ÷ 5 = ____	7 × 8 = ____	5 × 14 = ____	154 ÷ 14 = ____



196cm²

How can we work out the area of this composite shape?

How can we work this out? What do we need to be careful of?



4 x 9, not 4 x 12. Why?

Now do some yourself...

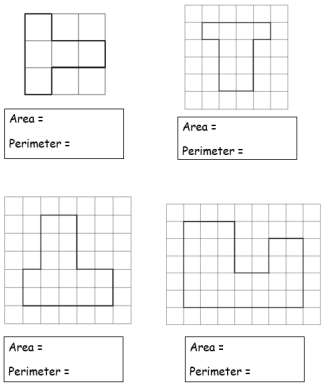
Rectlinear shapes 3 levels.d

PDF

*

L.O: To find the perimeter and area of rectilinear shapes

By Counting Squares

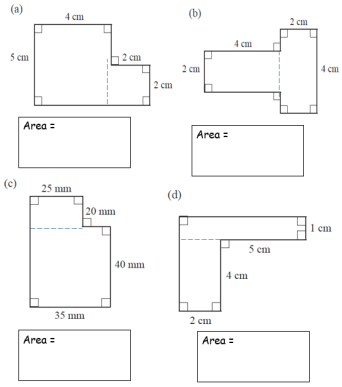


** (complete to show you can, before doing 3 star)

L.O: To find the area of rectilinear shapes

By Breaking the Shape Down Into Rectangles and Using the Formula

Area of a Rectangle = Length x Width



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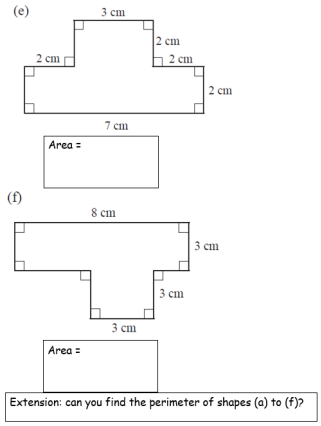
Now try putting in the lines yourself



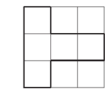
Extension: can you find the perimeter of shapes (a) to (f)?

Answers

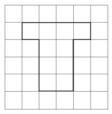
*

L.O: To find the perimeter and area of rectilinear shapes

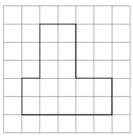
By Counting Squares



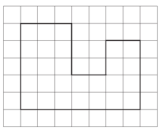
Area = 5cm²
Perimeter = 12cm



Area = 10cm²
Perimeter = 16cm



Area = 16cm²
Perimeter = 20cm



Area = 27cm²
Perimeter = 28cm

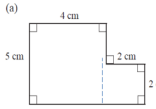
** (complete to show you can, before doing 3 star)

L.O: To find the area of rectilinear shapes

By Breaking the Shape Down Into Rectangles and Using the Formula

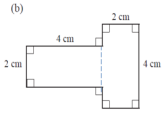
Area of a Rectangle = Length x Width

(a)



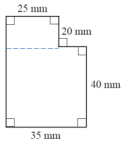
Area = 24cm²

(b)



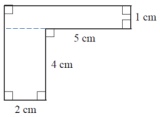
Area = 16cm²

(c)



Area = 1900mm²

(d)



Area = 15cm²

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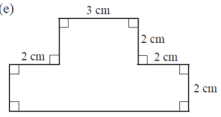
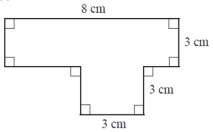
Now try putting in the lines yourself

(e)



Area = 20cm²

(f)



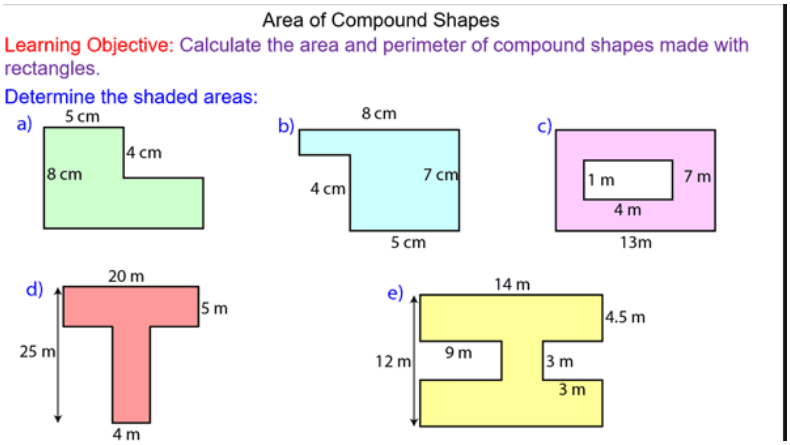
Area = 33cm²

Extension: can you find the perimeter of shapes (a) to (f)?

Extension
A = 22cm
F = 28cm

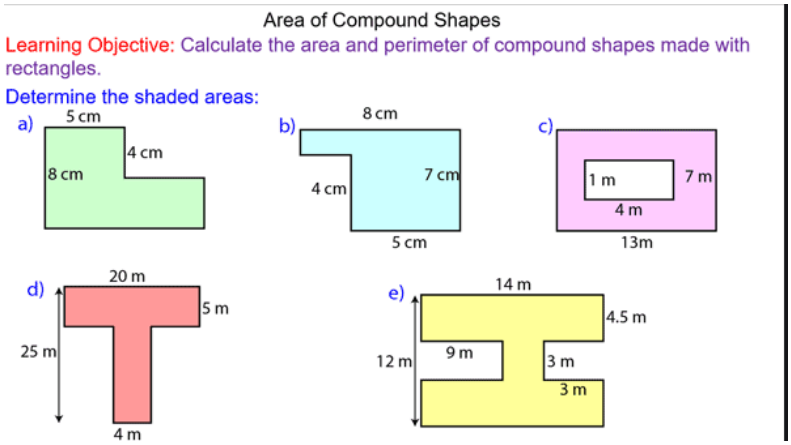
PDF

Bonus extension



One is impossible! Can you work out which one?

Bonus extension (answers)



A = ?

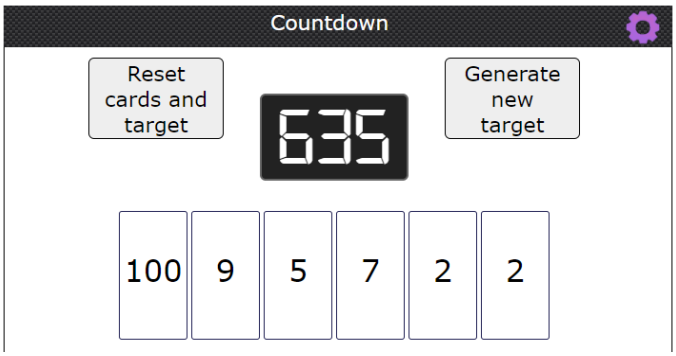
B = 44cm^2

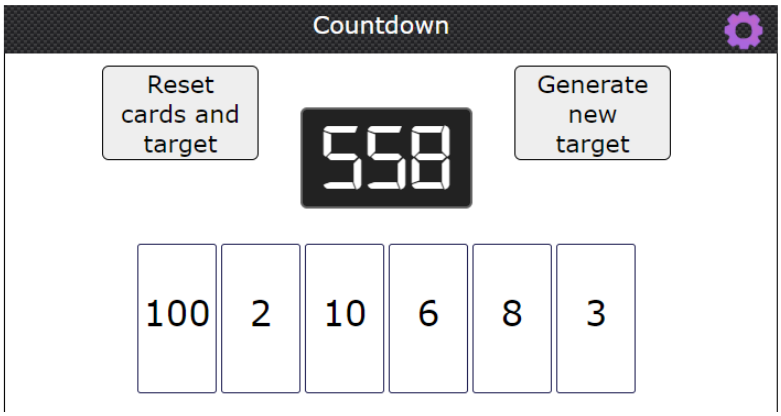
C = 87m^2

D = 180m^2

E = 132m^2

Friday


Countdown
Reset cards and target
635
Generate new target
100
9
5
7
2
2


Countdown
Reset cards and target
558
Generate new target
100
2
10
6
8
3

https://nrich.maths.org/10368/note

1) Decide on the categories you are sticking by

2) Draw

2) Label

Bonus: Is it possible to draw a shape which fits all the categories?

The shape has two pairs of parallel sides.	The area of the shape is $24cm^2$.
The shape has four right angles.	The shape's perimeter is numerically larger than its area.
The length of each side is an even number.	The shape is irregular.
The shape is a quadrilateral.	The shape has two lines of symmetry.