

WC 13.07.2020

Measurement

Monday

LO: Duration of time

Recap Questions:

- How do you convert 12-hour and 24-time?
- How many seconds are there in a minute?
- How many minutes are there in an hour?
- How many days are there in a week?

Use a ruler to match the times below:

Match each clock to the correct time.

A clock shows this time twice a day.

One has been done for you.

1:45

half past ten

ten to seven

9:10

03:45

02:45

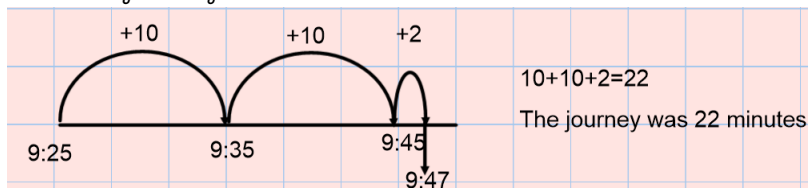
09:45

21:45

14:45

Tip: Use a timeline to help you calculate duration of time

Ellie takes the train to Edinburgh. She sets off at 09:25 in the morning and arrives at 09:47. How long was her journey?



Try these:

What is 444 minutes in hours and minutes?

hours	minutes
-------	---------

A cat sleeps for **12 hours** each day.
50% of its life is spent asleep.



Write the missing percentage.

A koala sleeps for **18 hours** each day.

%	of its life is spent asleep.
---	------------------------------



A machine pours 250 millilitres of juice every 4 seconds.

How many litres of juice does the machine pour every minute?

Which set of questions would you like to solve?

- Mike takes the train at 9:25 in the morning and arrives at 10:15. How long was his journey?
- On holiday, Anna cycles to Killarney. She sets off at 14:27 and arrives at 14:58. How long was her journey?
- A clock shows this time twice a day.



Tick the two digital clocks that show this time.

03:45

02:45

09:45

21:45

14:45

- Stefan's watch shows five minutes past nine.
The watch is twelve minutes fast.



What is the correct time?

- Circle the time that is 30 minutes **before** midnight.



12:30 am

12:30 pm

11:30 am

11:30 pm

3 am

- Write these times in order, starting with the shortest.

24 days

10 weeks

1 month

48 hours

shortest



- Kirsty ran a race in one and a half minutes.

Mina took 10 seconds longer.

How many **seconds** did Mina take to run the race?

seconds

- Write the missing numbers.

60 months = years

72 hours = days

84 days = weeks

- Complete each sentence using a number from the list below.

120 240 600 1,440 3,600 6,000

There are seconds in an hour.

There are minutes in a day.

- Seb has to see the doctor at 10:05 am.

He gets to the doctor's surgery at 9:52 am.

How many minutes **early** is he?



minutes

He leaves the doctor's surgery at 10:25 am.

He gets to school 45 minutes later.

What time does he arrive at school?



am

Activate Windows
Go to Settings to activate Windows.

1. Jamie, Kate and Hassan run a 50 m race.



Kate's time is 13 seconds.
 Jamie finishes 5 seconds before Kate.
 Hassan finishes 3 seconds after Jamie.
 What is Hassan's time in seconds?

3. How many **days** old will the baby be when she has lived for one million seconds?



4. Here is a rule for the time it takes to cook a chicken.

Cooking time = 20 minutes plus an extra
 40 minutes for each kilogram

How many minutes will it take to cook a 3 kg chicken?

minutes

2. The length of a day on Earth is 24 hours.

$\frac{2}{3}$

The length of a day on Mercury is $\frac{2}{3}$ times the length of a day on Earth.

What is the length of a day on Mercury, in **hours**?

What is the mass of a chicken that takes 100 minutes to cook?

kg

5. Here is the morning timetable for Chen's class this week.

Time	Mon	Tue	Wed	Thu	Fri
9:00 am – 10:30 am	Maths	English	Maths	English	Maths
10:30 am – 11:00 am	Break	Break	Break	Break	Break
11:00 am – 12:00 pm	English	Maths	Science	Maths	English

What is the total number of hours for English on this timetable?

hours

Activate Windows

Go to Settings to activate Windows.

Challenge:

William wants to travel to Paris by train.

He needs to arrive in Paris by 5:30 pm.

Circle the latest time that William can leave London.

Leaves London	Arrives Paris
12:01	15:22
12:25	15:56
13:31	16:53
14:01	17:26
14:31	17:53
15:31	18:53
16:01	19:20

Reasoning:



Here are the start and finish times of some children doing a sponsored walk.

	Start time	Finish time
Claire	9.30	10.55
Ruth	9.35	11.05
Dan	9.40	11.08
Tim	9.45	11.05

How much longer did Claire take than Tim?

minutes

Purple Mash for the week:



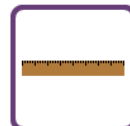
Area



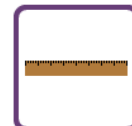
Perimeter



Units of
Measurement



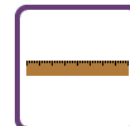
Prefixes - Unit of
Measure



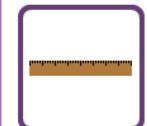
Matching Volume &
Capacity



Volume & Capacity



Convert measures to
solve problems



Convert units (m and
mm)

Rock Stars: You should be able to recall all of your timestables.

L.O: Converting units of measurementLet's start off with some place value problems:

Order the numbers starting with the **largest**.
Match each number with its order.

1,009,909	1 st largest
1,023,065	2 nd
1,009,099	3 rd
1,230,650	4 th smallest

A theme park sells tickets online.

Each ticket costs £24

There is a £3 charge for buying tickets.

Which of these shows how to calculate the total cost, in pounds?

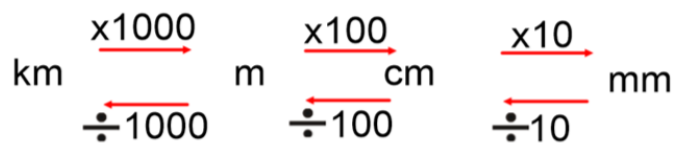
Tick one.

number of tickets $\times 3 + 24$ ☐number of tickets $\times 24 + 3$ ☐number of tickets $+ 3 \times 24$ ☐number of tickets $+ 24 \times 3$ ☐Vocabulary:

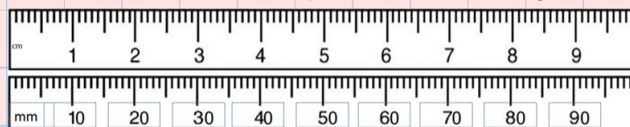
units of length: km, m, cm, mm

units of mass: kg, g

units of capacity: litres and ml

So, how do I convert units of length?units of lengthSolve:

How many mm are there in a cm? Convert cm into mm. which operation will you use?



4cm = mm 5.5cm = mm

$$20\text{mm} = \quad \text{cm}$$

$$71\text{mm} = \quad \text{cm}$$

$$1000\text{m} = \quad \text{km}$$

$$5000\text{m} = \quad \text{km}$$

$$4\text{km} = \quad \text{m}$$

$$3.5 \text{ km} = \quad \text{m}$$

A pineapple has a mass of 2.12 kg.
Find the mass in grams.

$$1 \text{ kg} = \quad \text{g}$$

$$3.07 \text{ kg} = \quad \text{g}$$

$$0.5 \text{ kg} = \quad \text{g}$$



Remember:
units of mass
x1000
kg \rightarrow g
 \div 1000

units of capacity

x1000
litres \rightarrow ml
 \div 1000



$$3\text{L} = \quad \text{ml}$$

$$7000 \text{ ml} = \quad \text{L}$$

$$0.8\text{L} = \quad \text{ml}$$

$$3250 \text{ ml} = \quad \text{L}$$

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Measurement

Which set of questions will you solve?

- 1) 5000 m = km
- 2) 60 mm = cm
- 3) 0.6 kg = g
- 4) 8.2 L = ml
- 5) 7900 ml = L

- 1) 2168 m = km
- 2) 29 cm = m
- 3) 153 mm = m
- 4) 0.6 L = ml
- 5) 75 ml = L

- 6) Jack pours some dark paint into a container.



- a) In litres, how much paint is in the container?
- b) Convert into ml

- 1) 3.456 kg = _____g

Copy and complete by putting <, > or =.

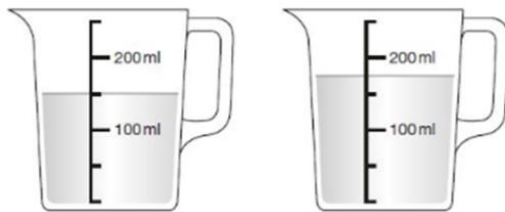
- 2) 10 cm _____ 0.09 m
- 3) 3000 mm _____ 0.003 km
- 4) 25 g _____ 0.025 kg

Write down the question and solve.

- 5) A lorry travels 263 km in Belgium and 172 miles in England. How much longer in miles is the English journey?

Challenge

Stefan has 600 millilitres of water in a bottle.
He pours some of the water into two measuring jugs as shown.



How many millilitres of water are left in Stefan's bottle?

Reasoning

Megan wants to fill a bucket with water.

A bucket holds 6 litres.

A jug holds 500 millilitres.

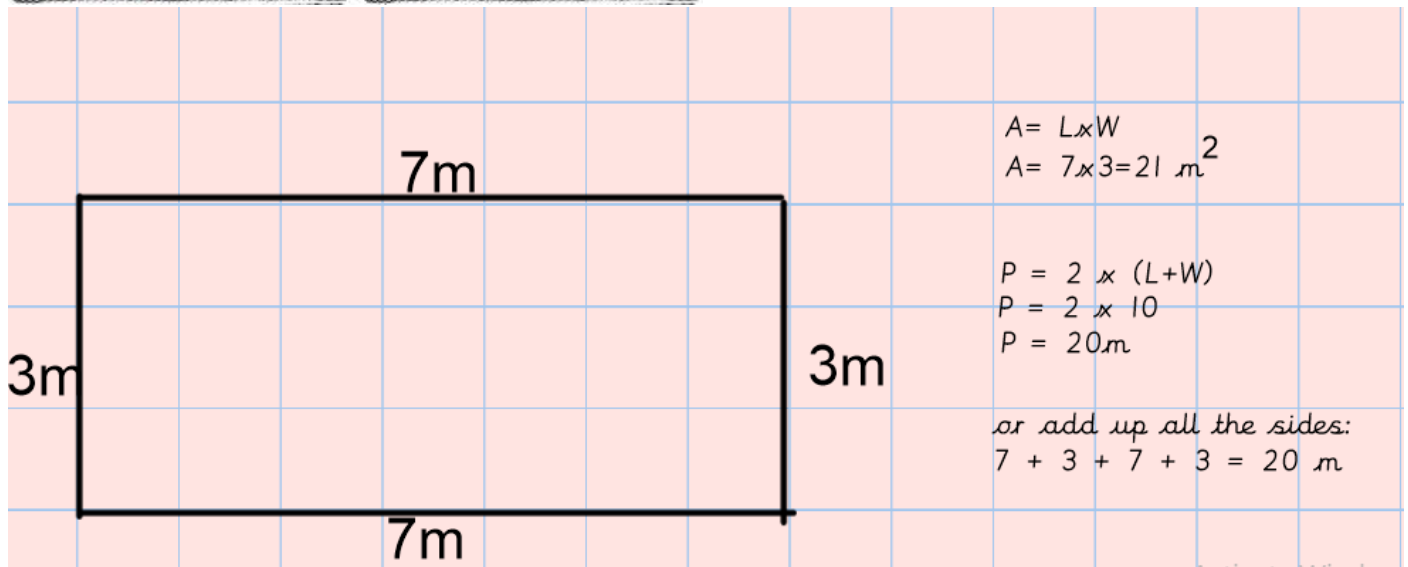
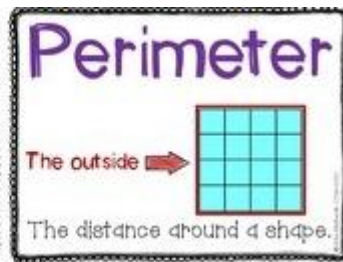
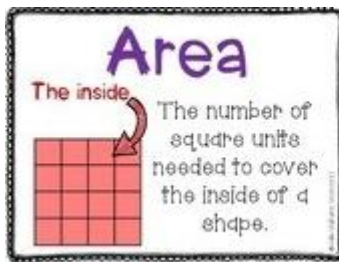
How many jugs of water does Megan need to fill an empty bucket?

Purple Mash for the week:

Area	Perimeter	Units of Measurement	Prefixes - Unit of Measure	Matching Volume & Capacity	Volume & Capacity	Convert measures to solve problems	Convert units (m and mm)

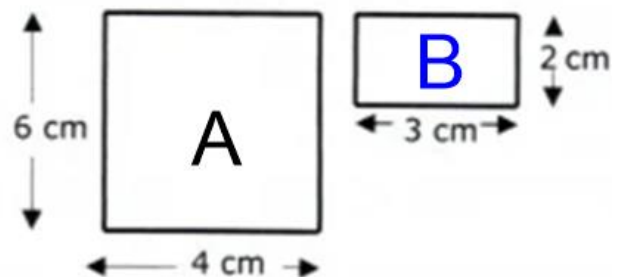
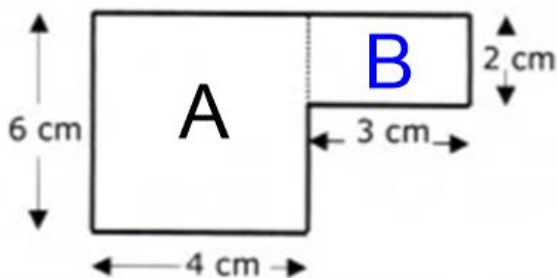
Rockstars:

LO: Area and Perimeter



How do we find the area of a compound shape?

The area of this shape \longrightarrow EQUALS \longrightarrow the area of these two

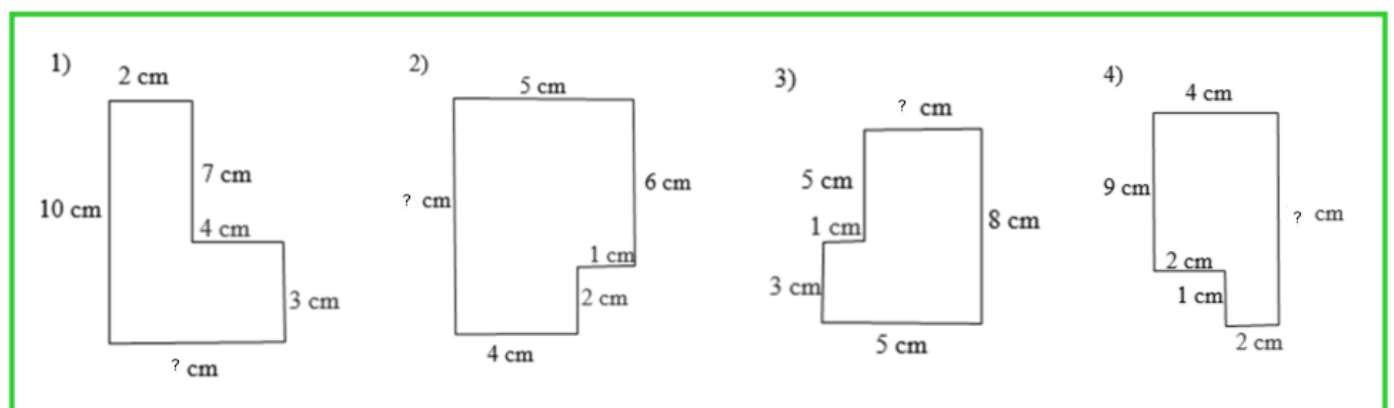
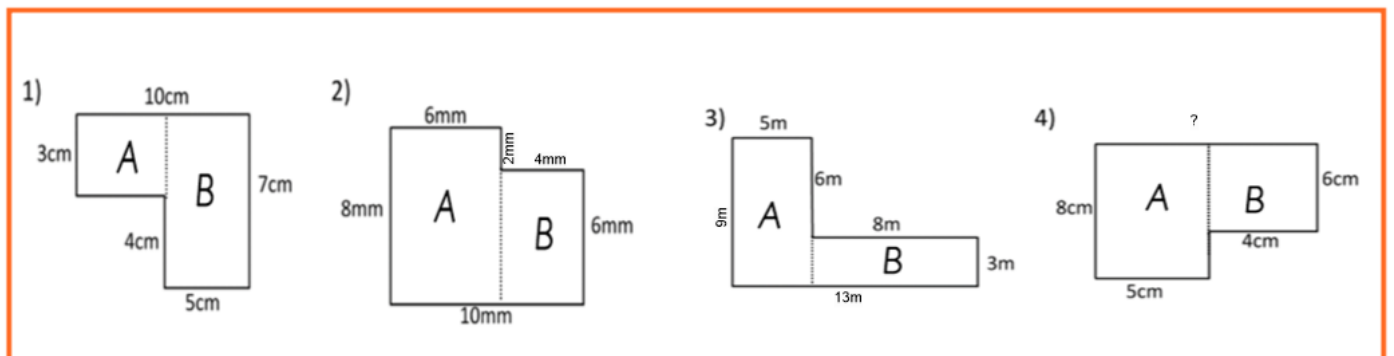
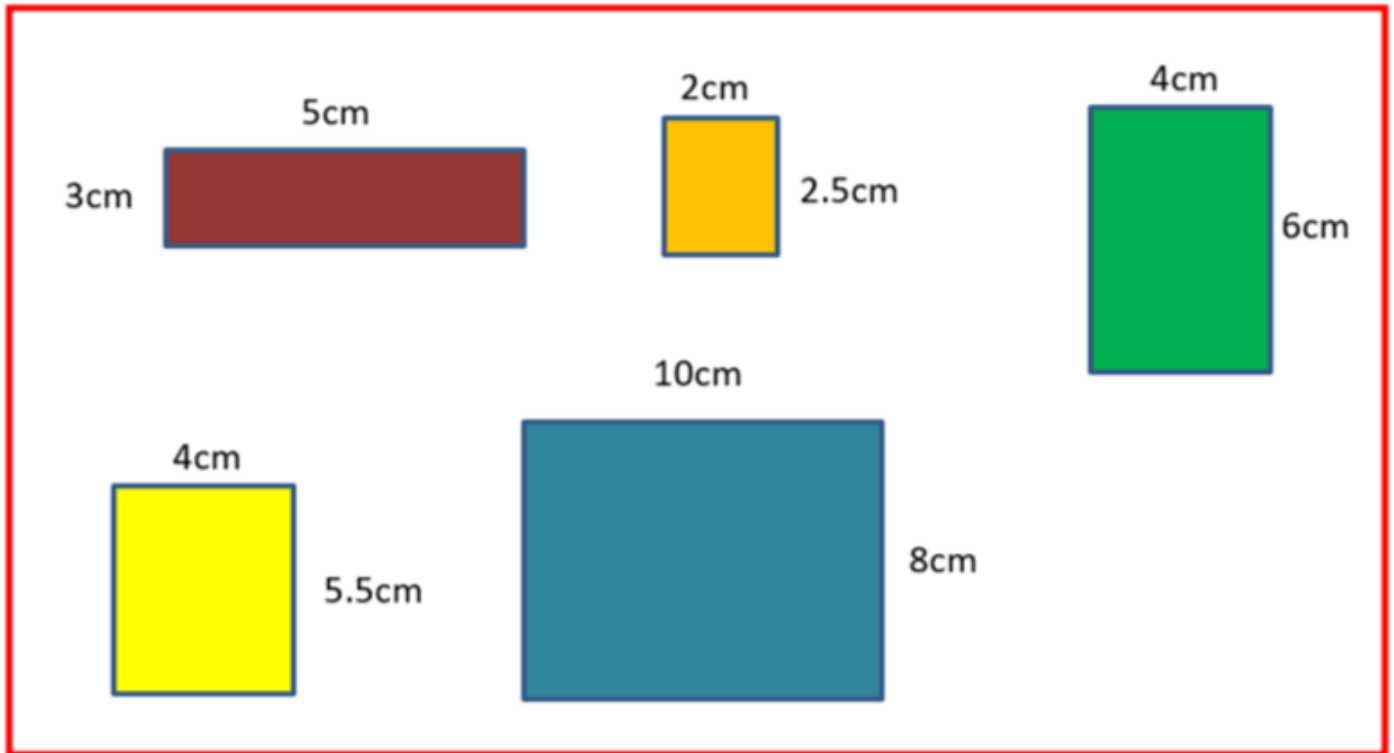


$$\begin{aligned} \text{The area of this shape} &= (6 \times 4) + (2 \times 3) \\ &= 24 + 6 \\ &= 30 \text{ cm}^2 \end{aligned}$$

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Measurement

Which set of questions would you like to solve? Find the area and perimeter.



Challenge

The following quadrilaterals all have a **perimeter of 36 cm**.

Here is a table to show the length of each side.

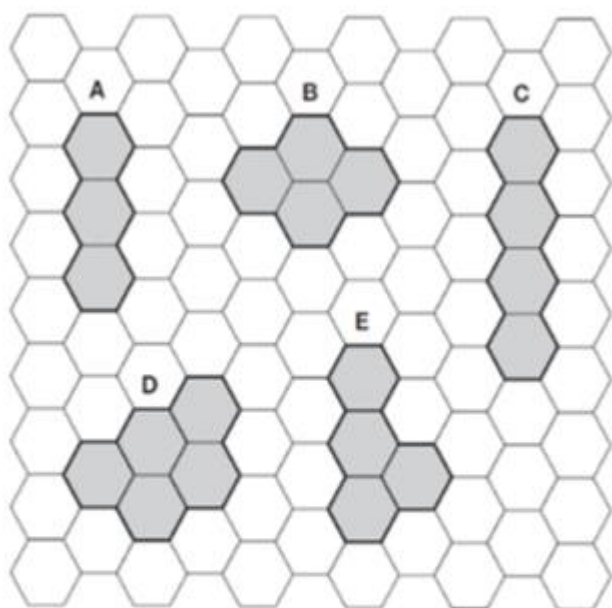
Complete the table.

One quadrilateral is done for you.

	Side lengths			
square	9 cm	9 cm	9 cm	9 cm
rectangle	3 cm			
rhombus	9 cm			
kite	10 cm			

Reasoning

Here are five shapes on a regular grid.



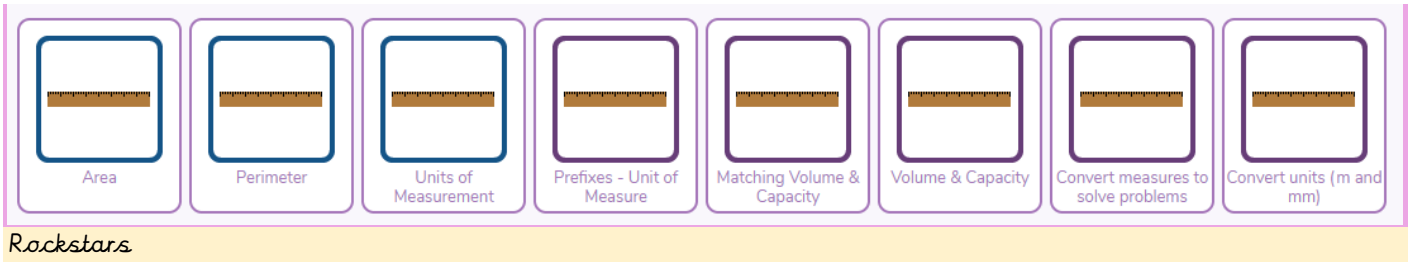
Which shape has the longest perimeter?

☐

Which shape has only one line of symmetry?

☐

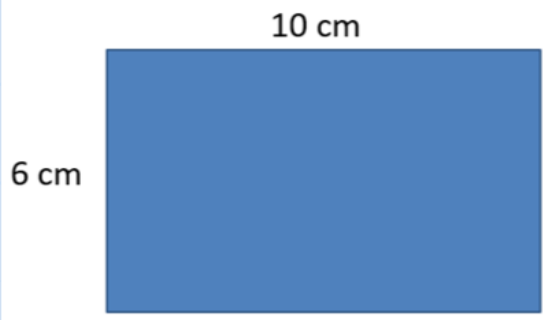
Purple Mash for the week:



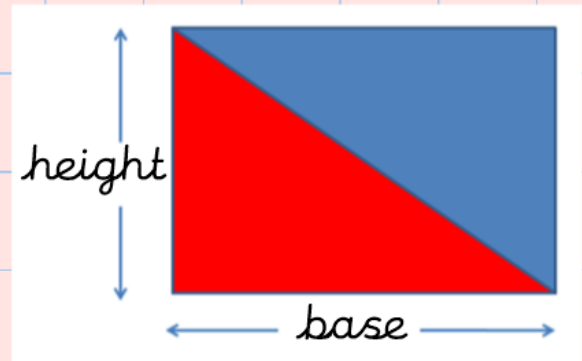
Thursday

LO: Area of Triangles

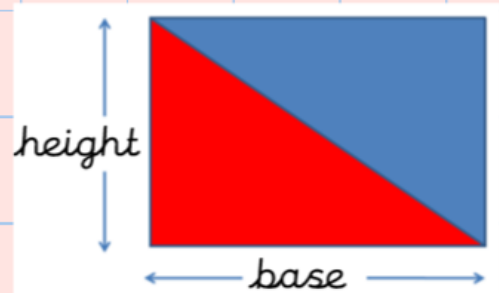
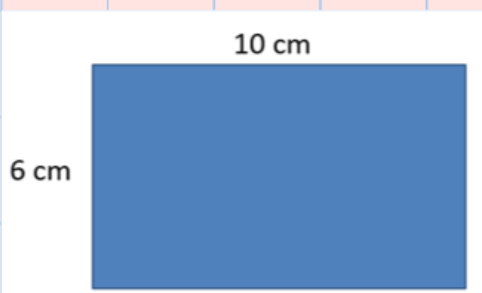
Calculate the area of the rectangle.



I've cut the rectangle diagonally across to make 2 triangles. How would I find the area of the red triangle?



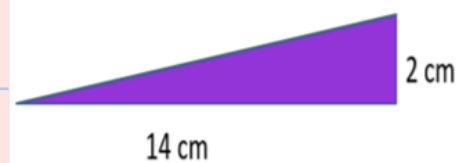
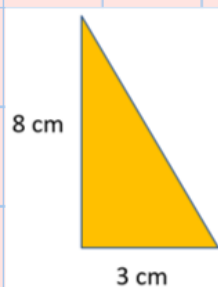
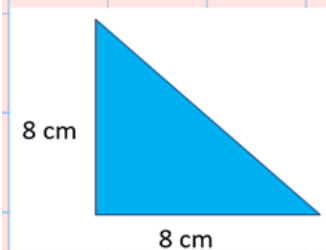
In order to find the area of a triangle, we can calculate base X height (area) and divide it by 2.



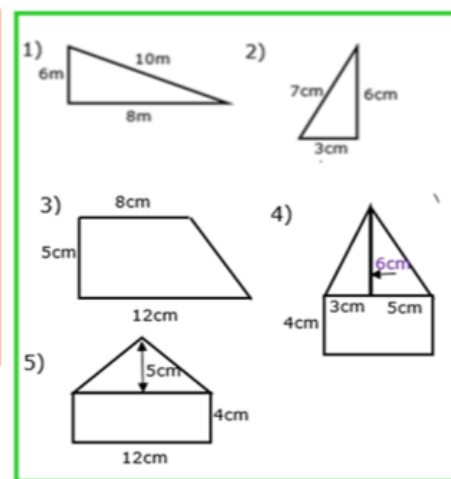
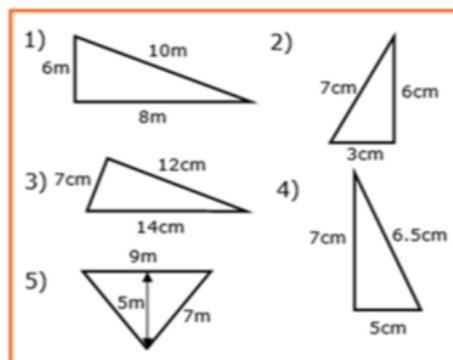
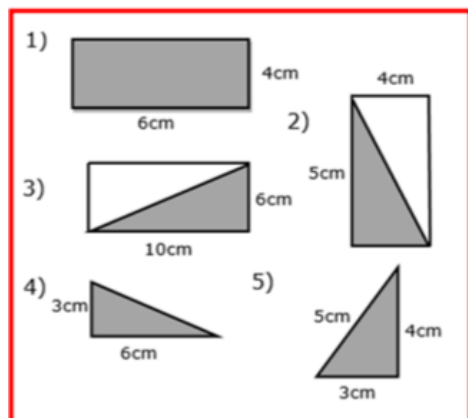
$$A = 10 \times 6 = 60 \text{ cm}^2$$

$$A = \frac{bh}{2}$$

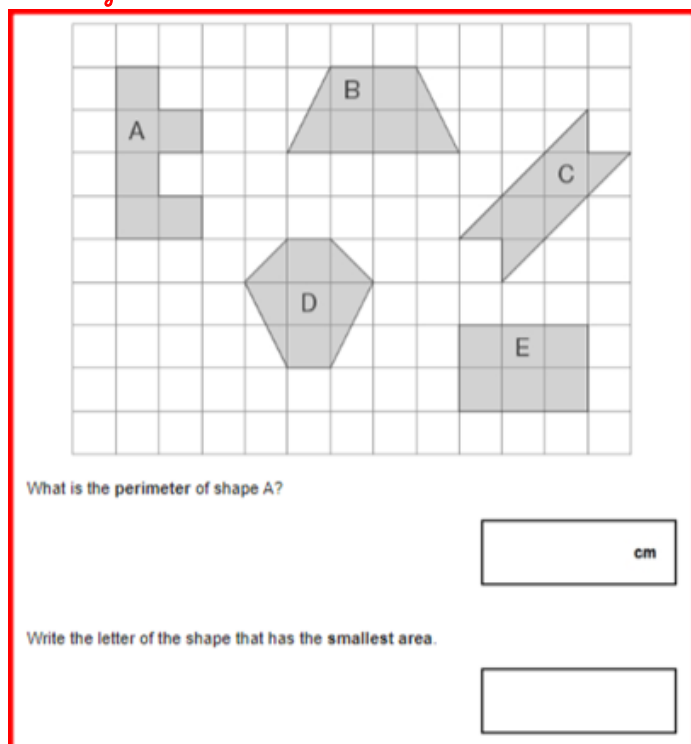
Your turn: $A = \frac{bh}{2}$



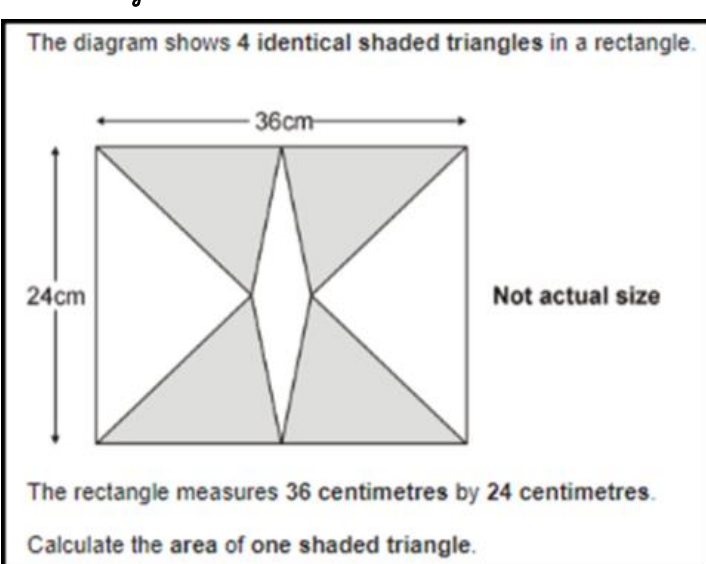
Which set of questions will you solve?

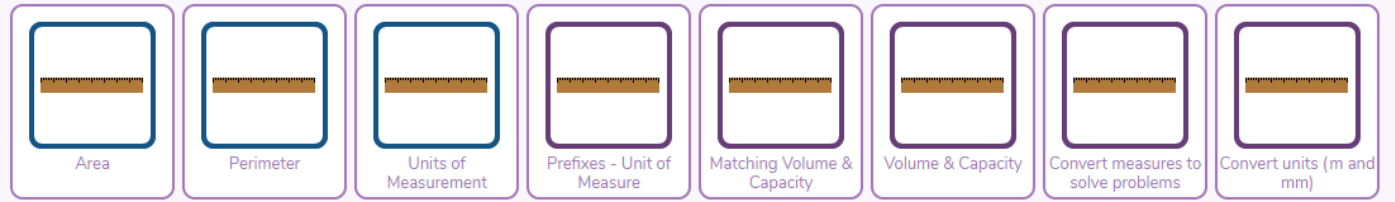


Challenge:

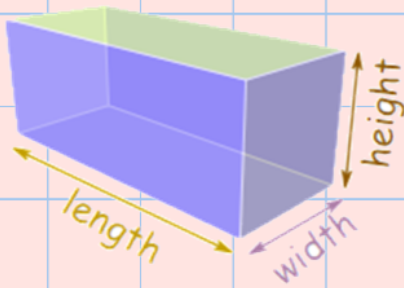


Reasoning



Rockstars

Friday

LO: Volume

Look at this shape.

There are 3 different measurements:
Length, Width, Height

The volume is found using the formula:

$$\text{Volume} = \text{Length} \times \text{Width} \times \text{Height}$$

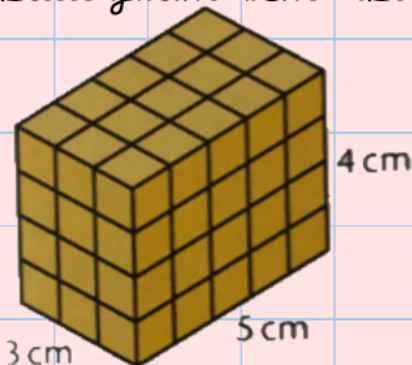
Which is usually shortened to:

$$V = l \times w \times h$$

Or more simply:

$$V = lwh$$

Why is this formula apparent when considering a cuboid built from 1cm^3 blocks?



$$\text{Blocks in one layer} = 3 \times 5 = 15$$

$$\text{Blocks in four layers} = 4 \times 15 = 60$$

$$\text{Total volume} = 60\text{cm}^3$$

Or use the formula

$$V = lwh$$

$$V = 3 \times 5 \times 4$$

$$V = 3 \times 20 = 60\text{cm}^3$$

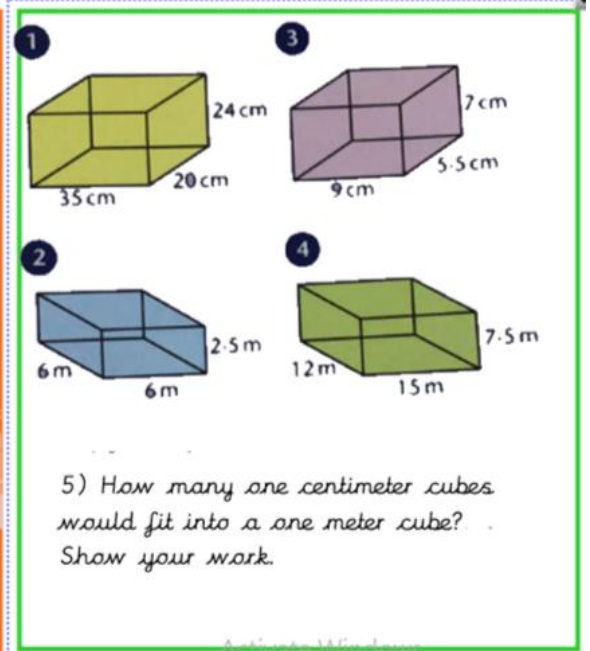
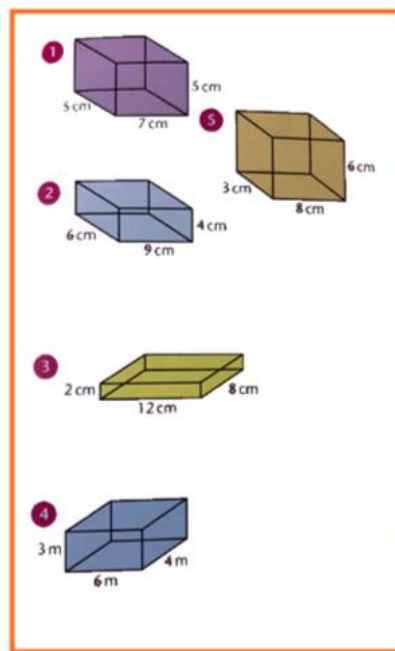
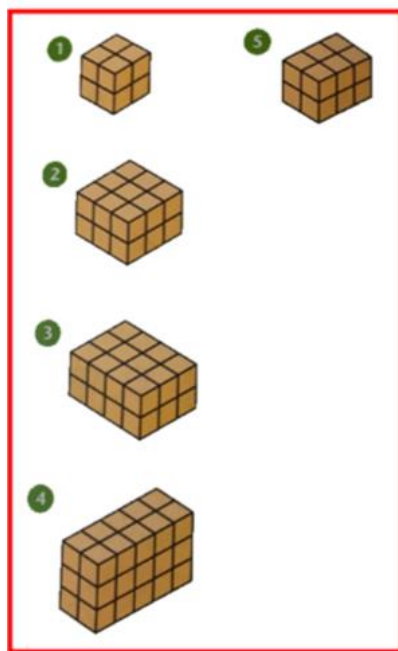
Strategy: Multiply digits
with products of
multiples of 10. Why?

Activate Windows
Go to Settings to activate Windows

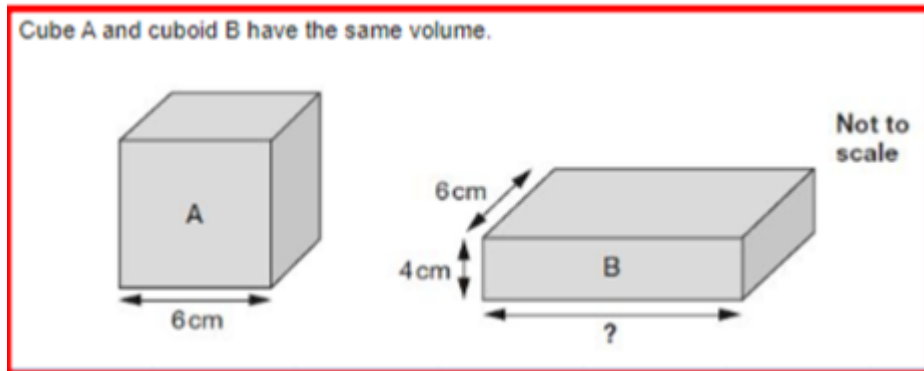
WC 13.07.2020

Measurement

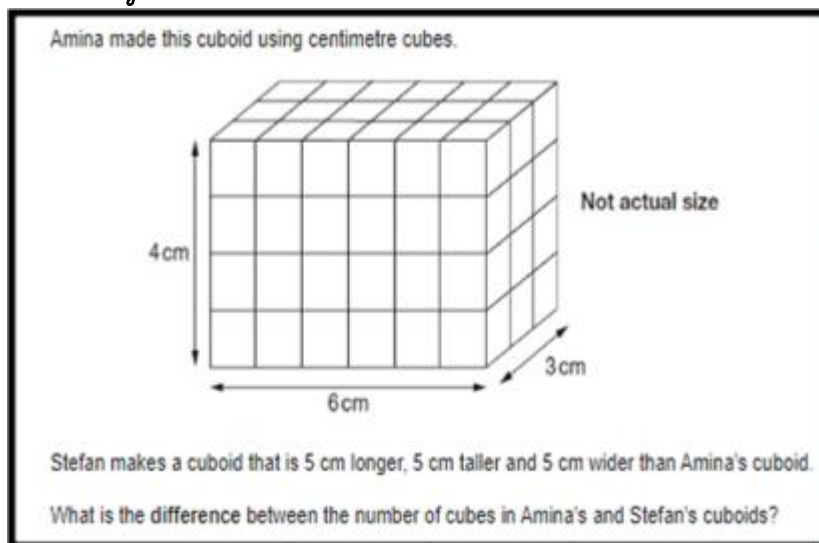
Which set of questions will you solve?







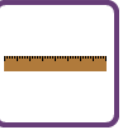
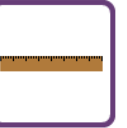
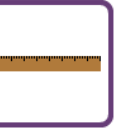
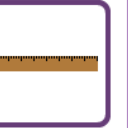
Challenge



Reasoning



Purple Mash for the week:

 Area	 Perimeter	 Units of Measurement	 Prefixes - Unit of Measure	 Matching Volume & Capacity	 Volume & Capacity	 Convert measures to solve problems	 Convert units (m and mm)
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Rockstars

Arithmetic

1) $210,100 - 10,000 - 10,000 =$

2) $-20 + 17 =$

3) $333,333 + 8,888 =$

4) $3,621 \times 6 =$

5)
$$\begin{array}{r} 804,307 \\ - 266,690 \\ \hline \end{array}$$

6) $250,000 - ? = 200,500$

7) $9,727 \div 4 =$

8) $24,000 \div 4 =$

9) $230,000 + 90,000 =$

10) $100,000 - 9 =$

11) $700 \times 70 =$

12) $72,000 \div 900 =$

13) $12^2 + 7^2 - 5^3 =$

14) $2.8 \div 100 =$

15) $345 - 30 \times 4 =$

16) $3,200 \div 8 + 120 =$

17) $80 \times 70 \times 20 =$

18) $88.51 \times 1000 =$

19) $0.3 = ?\%$

20) $65.71 + 1.296 =$

21)
$$\begin{array}{r} 93.59 \\ \times 7 \\ \hline \end{array}$$

22) $0.8 = \frac{?}{25}$