Year 4
Remote Learning

Maths Week 13

Message

Hello Year 4!

We hope you are all well and that you have managed to settle into the Summer term.

This week, we are continuing with geometry and our main focus is learning about the properties of 2D shapes.

We are also going to go over some of our previous learning and re-cap some calculation and number objectives from earlier in the year.

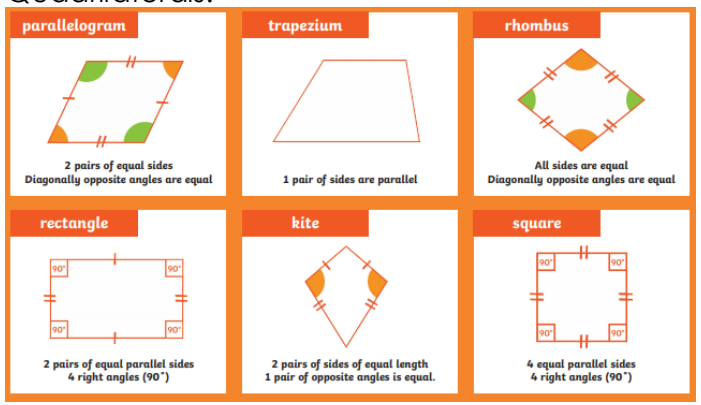
Our last lesson is something slightly different as there is a video lesson that you can follow along with Ms Davies. Don't worry if you do not have access to technology on that day, the same activities are still on the sheet and you can do the lesson as normal.

Good luck!

Love Ms Davies, Ms Schmidt, Mr Shiel & Mr Goddard

Teaching:

Quadrilaterals:



Triangles:
Equilateral triangles have 3 equal sides and 3 equal angles of 60°.
Isosceles triangles have 2 equal sides and 2 equal angles.
Right-angled - One of the angles is a right angle (90°) in right-angled triangles.
Scalene triangles have no equal sides and no equal angles.

Lines of Symmetry:
A 2D shape is **symmetrical** if a **line** can be drawn through it so that either side of the **line** looks exactly the same. The **line** is calles a **line of symmetry.**

Website Links

Here are some useful teaching videos:

BBC Bitesize - How to identify different polygons: https://www.bbc.co.uk/bitesize/topics/zvmxsbk/articles/z98n4qt

BBC Bitesize - Division explained from page 5 onwards: https://www.bbc.co.uk/bitesize/guides/zvvg87h/revision/4

BBC Bitesize - A quick guide to short division with remainders: https://www.bbc.co.uk/bitesize/articles/zfdsy9q

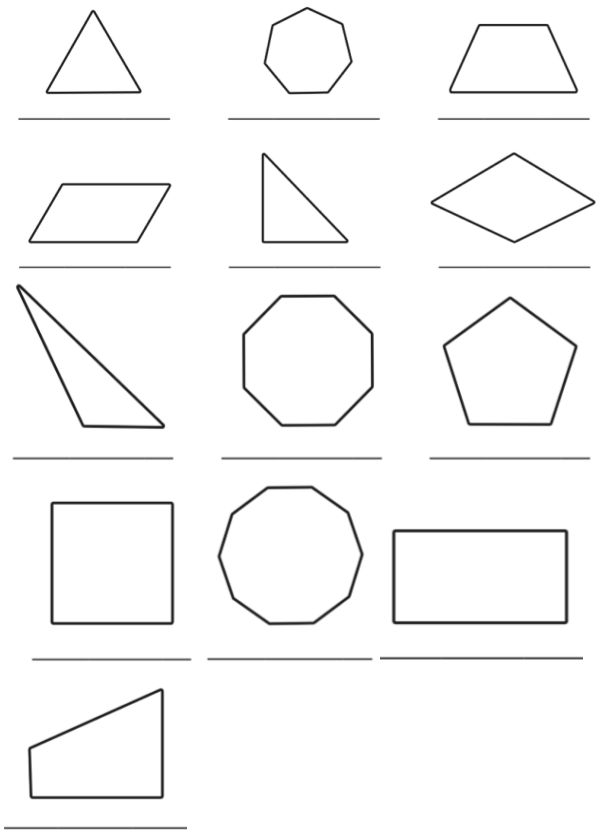
BBC Bitesize - Multiplication https://www.bbc.co.uk/bitesize/guides/zy2g87h/revision/1

Oak National Academy:
At the time of typing this, **Oak National Academy** is offering lessons on **area and perimeter** and **solving measures and money problems.** It is worth checking the website regularly.
https://www.thenational.academy/online-classroom/year-4/maths#subjects

Lesson One – Name the 2D Shape

How many of these shapes do you know? Can you match the correct name with the shapes? Use the information in the **Teaching** section to help you.

Rectangle trapezium octagon
Equilateral triangle trapezoid
right-angles triangle square
decagon heptagon rhombus
parallelogram pentagon
scalene triangle

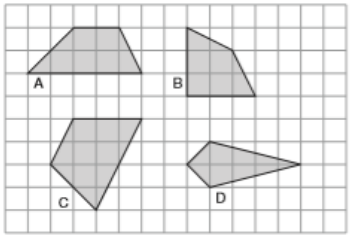


2D Shapes – Various Questions

1. Here are seven shapes.

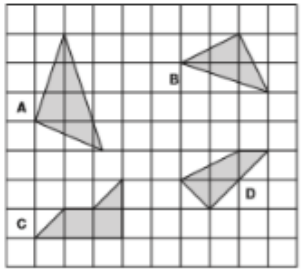
Write the letters of the two shapes which are **pentagons**.

2. Here are some shapes on a grid.



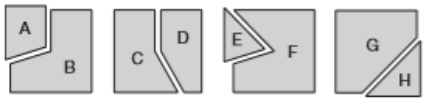
Write the letter of shapes that has one pair of parallel lines.

3. Here are four shapes on a square grip.



Write the letters of all the shapes that have exactly two sides which are equal in length.

4.Each of these four squares has been cut into two new shapes.

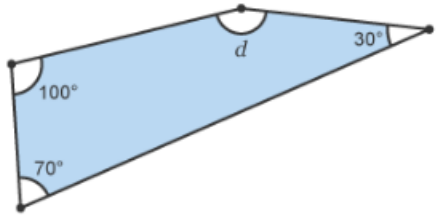


Write the letters of all the new shapes that are hexagons.
Write the letters of all the new shapes that are pentagons.

Interior Angles in a Quadrilateral

The sum of interior angles in a quadrilateral is 360˚ This fact and the properties of quadrilaterals can be used to calculate angles.

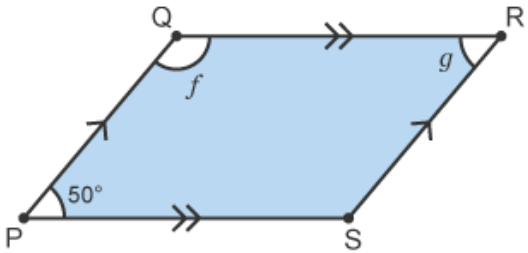
Example:
Find angle d.



We know that all the angles together add up to 360˚. So we know that d = 360 – 100 – 70 – 30 **= 160˚**

Question:

Find the unknown angles *f* and *g* of this parallelogram.

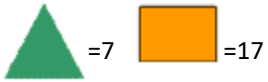


Hint:
This is a parallelogram and so we know that

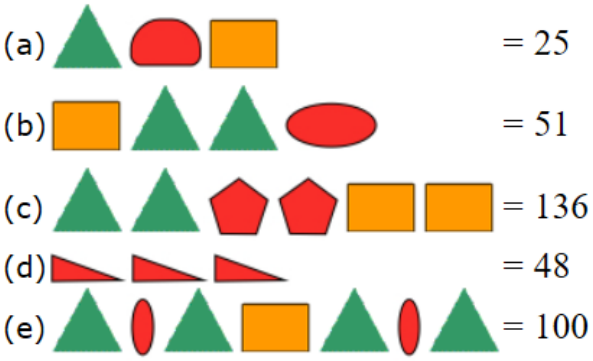
- Opposite angles are equal. How does this help us find angle *g*?
- Angles in a quadrilateral add up to 360˚ and opposite angles are equal.

Lesson Two - Super Shapes

Each of the following shapes has a value:



The value of the **red** shapes changes in each of the following problems.
Can you discover its value in each problem, if the values of the shapes are being added together?



Getting Started:

Think about working out the answers to these questions first:

What do the green triangle and orange rectangle shapes add up to in each case? So, what is left for the red shape or red shapes?

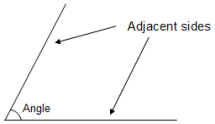
What 2D Shape am I?

Match the clues to the shapes. Can you try and draw them as well? Did you find it easy or hard?

square, rhombus, hexagon, trapezium, pentagon, isosceles triangle, equilateral triangle, octagon, parallelogram, heptagon, kite, nonagon

Clues:

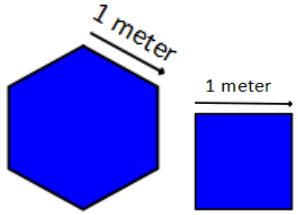
1. A six-sided polygon.
2. A four-sided shape with four equal sides and four right angles.
3. A four-sided shape with two pairs of adjacent equal sides. (Adjacent means they meet at the same point).

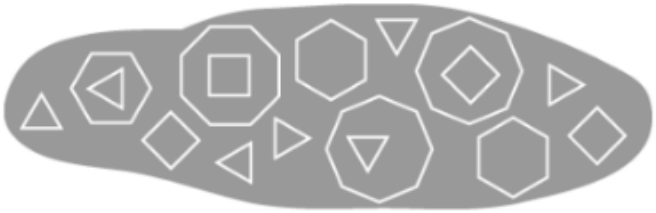


4. An eight-sided shape.
5. A five-sided shape.
6. A quadrilateral with two pairs of equal sides and opposite equal angles.
7. A seven-sided shape.
8. A three-sided shape with three equal angles.
9. A four-sided shape with one set of parallel lines only.
10. A nine-sided shape.
11. A four-sided shape with four equal sides and opposite equal angles.
12. A 3-sided shape with two equal sides.

Shapes on the Playground

Sally and Ben went outside the school to draw some very large shapes on the tarmac. None of the shapes they drew shared any sides with any other shape – they were all drawn separately although some small shapes were inside larger shapes. The children each had a box of ten sticks of chalk. Each stick drew 10 metres before it was worn away. They both drew shapes with all sides one meter long.





Sally drew squares and octagons, sixteen shapes altogether, and uses up all her chalk.

How many of each shape did she draw?

Ben drew triangles, hexagons and squares. He drew 20 shapes and still had two sticks of chalk left. How many of each shape did he draw?

Getting started:
Try starting by sketching out each of the shapes and writing down the perimeter of each one.

Lesson Three – Quick Questions

Try and solve these calculations using mental maths strategies:

901 + 100 = _____

562 – 100 = _____

198 + 30 = _____

707 – 600 = _____

8345 + 1000 = _____

4722 + 123 = _____

9125 – 23 = _____

3.5 + 0.2 = _____

6.77 – 0.02 = _____

137 + 240 = _____

673 – 74 = _____

399 + 10 = _____

54 + 66 = _____

112 – 80 = _____

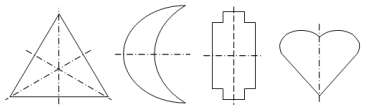
463 + 226 = _____

5.6 + 2.2 = _____

64 + 28 = _____

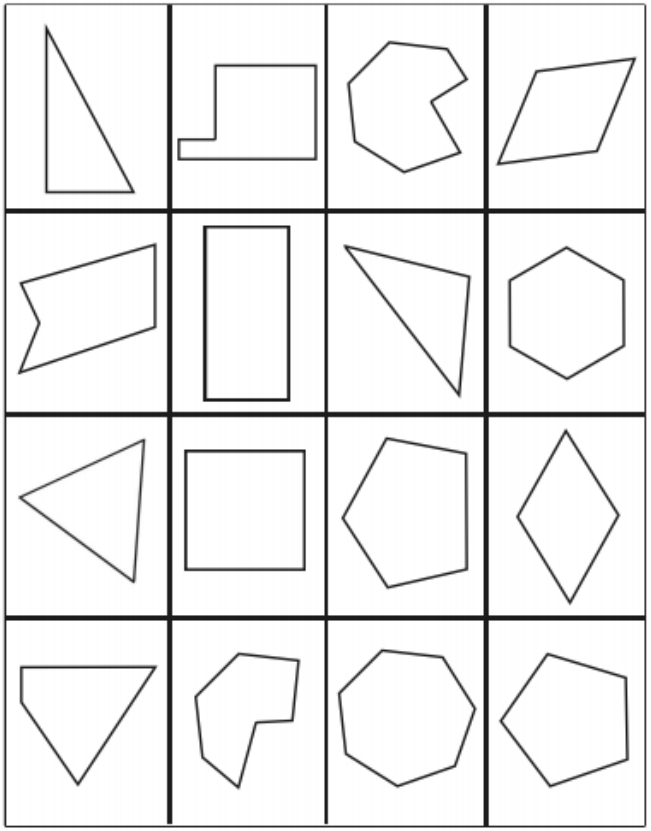
44 – 27 = _____

Shapes of Symmetry



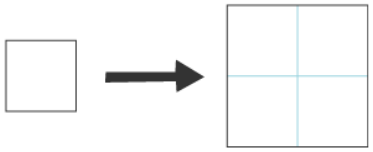
Task: With a ruler, draw the lines of symmetry for these shapes. Some shapes might have more than one line of symmetry and some might have none!

You can find this activity to print out in the attachment called **Shapes For Symmetry.**



Twice as Big?

If we double each side of a small square we get a new enlarged square:

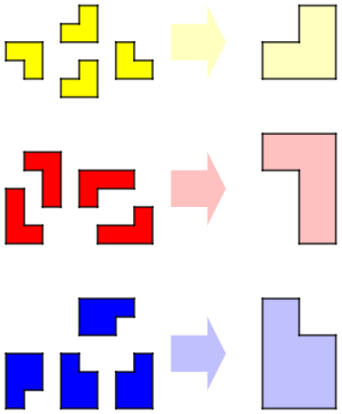


The new enlarged square is the size of four of the smaller squares.

This also happens when we enlarge other shapes. Some, like the squares, can be filled with the same smaller shape.

You can find this activity to print out in the attachment called **Twice As Big.**

Look at these:



Can you work out how the four shapes fit to make the enlarged shape each time?
You need to rotate or reflect the smaller shapes to fit them in. (This means that if you make them from squared paper you will need to turn them round or turn them over.)

Lesson Four

Try not to use a calculator to solve these calculations!

42
÷ 6
x 2
+ 26
x 12
÷ 60
x 2
¼ of it
x 5
x 19
Answer =

39
+ 9
¼ of it
x 3
÷ 9
Times by itself
+ 5
÷ 7
x 8
¼ of it
Answer =

Multiplication

281 × 5	463 × 4	696 × 4	416 × 4
275 × 6	643 × 6	867 × 5	891 × 4
841 × 4	912 × 8	584 × 8	141 × 8
234 × 6	573 × 8	578 × 9	765 × 9

Missing Number:

Calculate the missing digits in these calculations:

1. $\square 8 \times \square = 272$
2. $8\square \times 4 = 324$
3. $\square 4 \times \square = 84$
4. $\square 1 \times \square = 205$
5. $3\square \times 3 = 90$
6. $\square 7 \times \square = 485$

All the Digits –Super Challenge!

This shows the multiplication of a 4-digit number by 3.

The whole calculation uses each of the digits 0–9 once and once only.

0 1 2 ~~3~~ 4 5 6 8 9

The 4-digit number contains three consecutive numbers, which are not in order (e.g. 5,6,4). The third digit is the sum of two of the consecutive numbers.

The first, third and fifth digits of the five-digit answer are three consecutive numbers, again not in order. The second and fourth digits are also consecutive numbers.

Can you replace the stars in the calculation with numbers?

Getting Started:

Use counters or scraps of paper with the digits 0–9 written on them.
Make a list of 3 consecutive numbers 0–9 remembering that 3 has already been accounted for.
What could the ones digit of the product be if the multiplication is by 3?
Which consecutive numbers could be in the four-digit number?
Which other digit could appear in the four-digit number?

Lesson Five – Quick Questions

Follow this lesson here with Ms Davies:
https://youtu.be/Z55g1smNnTU

Times Tables - division:

28 ÷ 4 = _____

49 ÷ 7 = _____

110 ÷ 11 = _____

210 ÷ 3 = _____

48 ÷ 8 = _____

72 ÷ 9 = _____

132 ÷ 12 = _____

250 ÷ 5 = _____

26 ÷ 1 = _____

240 ÷ 3 = _____

75 ÷ 5 = _____

63 ÷ 3 = _____

36 ÷ 6 = _____

48 ÷ 4 = _____

81 ÷ 9 = _____

77 ÷ 7 = _____

540 ÷ 60 = _____

Division

Short division without remainders:

4) 2 1 0 4

6) 1 3 8 6

8) 5 2 3 2

7) 5 7 6 8

Super challenge:

15) 6 3 1 5

11) 8 1 9 5

15) 9 5 2 5

12) 6 2 8 8

20) 7 3 6 0

11) 9 6 2 5

Short division with remainders:

3) 4 1 8

5) 6 2 4

3) 7 3 1

9) 3 1 7

Using Short Division

The children of Coleridge Primary School have their sports day today. They are all really exited! The teachers want to put them into teams. There are **498** children in the school.

Use short division to work out the answers to these problems.

1. How many teams will there be if they are sorted into teams of 3 children?
   Will there be any children left who are not in a team of 3?

2. What if they are sorted into teams of 4 children?
   Will there be any children left who are not in a team of 4?

3. What if they are sorted into teams of 8 children?
   Will there be any children left who are not in a team of 8?

4. What if they are sorted into teams of 12 children?
   Will there be any children left who are not in a team of 12?

5. The teachers buy each child an ice cream to have after the races.
   The ice creams came in packs of 5. How many packs will they need to buy?

6. Each child needs a medal for taking part. Medals come in packs of 11.
   How many packs does Coleridge School need?

7. If each bottle of squash makes 20 cups of orange juice and the school buys 25 bottles, will there be enough for all the children to have a drink?