MATHS REVISION
TERM 2 CONTENT

- ## ROUNDING OFF

Rounding off numbers is useful when you are asked to ESTIMATE. Giving an estimate means to give an answer nearest to the actual answer. You can round off to 10, 100 or 1000, depending on the number.
When rounding off, look at the number to the right of the place you are rounding to. If the digit is 5 or more, round up if it is 4 or less, round down.

When rounding off to the nearest 10, your new number will end in a 0.
For example: 185 rounded off to the nearest 10 is 190; 142 is 140 and 14589 is 14590.

When rounding off to the nearest 100, your new number will end in 00
For example: 246 is 200; 576 is 600 and 13529 is 13500

When rounding off to the nearest 1000, your new number will end in 000
For example: 456 is 000; 1390 is 1000; 1598 is 2000 and 23198 is 23 000

- ## PRACTICE EXAMPLES #11 : Addition and subtraction problem solving

1. After reading three books in the holidays, I had read 1697 pages. If the first two books add up to 948 pages, how many pages did the third book have?
2. Mpho's father is saving up for flights overseas. The total amount needed for the family of four to fly is R58 950. He has managed to save R31 920. How much more money does he need for the air tickets?
3. Kyle's uncle is a farmer. He has collected 12 023 bags of wheat after the harvest. If he sells 6459 bags at the market and later another 2772 bags at the bread mill, how many bags does he have left?
4. A tourist bus must make a journey of 25 500km. In the first week it travels 8 700km and in the second week it travels 11 250km. How many kilometres must it still travel?

- ## COMMON FRACTIONS

Terms used:
denominator (the number under the line showing how many parts the whole has been divided into)
numerator (the number above the line showing the number of parts of the whole);
equivalent (when a fraction is equal to another fraction – the have the same value)

PRACTICE EXAMPLES #12

Complete the following:

1. ½ = $\frac{3}{6}$ (I multiplied the numerator and the denominator by 3)
2. ¾ = $\frac{\quad}{16}$
3. ⅝ = $\frac{15}{\quad}$
4. ¼ = $\frac{5}{\quad}$
5. $\frac{4}{5}$ = $\frac{\quad}{30}$
6. $\frac{\quad}{9}$ = $\frac{16}{36}$
7. $\frac{24}{36}$ = $\frac{\quad}{6}$
8. $\frac{9}{15}$ = $\frac{3}{\quad}$

Always multiply or divide the denominator and the numerator by the same number to make an equivalent fraction. **The rule to remember is "what you do to the bottom, you do to the top".**

- ## ADDITION OF FRACTIONS : same denominator

It's easy to add fractions when the denominators are the same! Simply add the numerator – NEVER add the denominator.

For example: ¼ = $\frac{2}{4}$ = ¾

- ## LENGTH

Terms used: mm (millimetres); cm (centimetres); m (metres); km (kilometres)

Learn these:
10mm = 1cm
1000mm = 1m
100cm = 1m
1000m = 1km

To convert:
mm to cm ÷by 10 (cm to mm x by 10)
mm to m ÷ by 1000 (m to mm x 1000)
cm to m ÷ by 100 (m to cm x 100)
m to km ÷ 1000 (km to m x 1000)

PRACTICE EXAMPLES #14

Convert these units of measure:

1. 780mm = ……cm
2. 45cm = ….mm
3. 25 000cm = ….m
4. 8m = ….cm
5. 7km = ….m
6. 135 000m = ….km
7. 0,5cm = ….mm
8. 0,5km = …m
9. 6,5cm - ….mm
10. 2,5km = …m

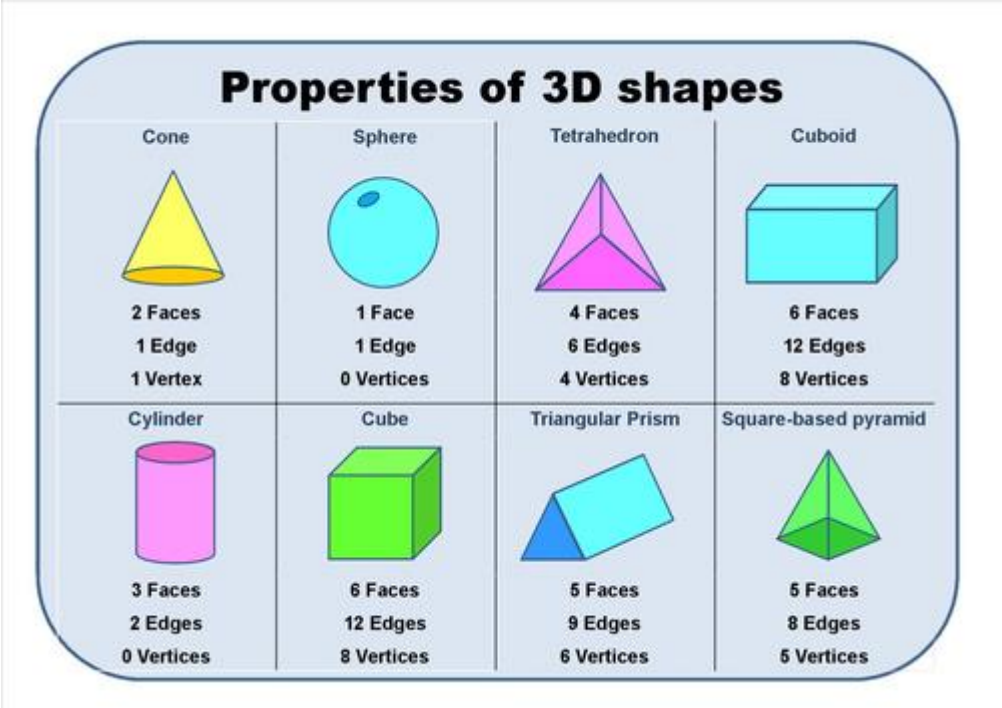
- ## MORE ABOUT FACTORS AND MULTIPLES

Factors and multiples have an important relationship with each other. For example if a number is a multiple of 5, the 5 is also a factor of that number. Knowing the rules of division will be very helpful:

When can you divide by:
2 – when the last digit is an even number
3 – when the sum of the digits is a multiple of 3
4 – when the last 2 digits are divisible by 4
5 – when the last digit is a 0 or a 5
6 – when the number is divisible by 2 and 3
8 – when the last 3 digits are a multiple of 8
9 – when the sum of the digits is a multiple of 9
10 –when the number ends in 0

- ## PROPERTIES OF 3D OBJECTS

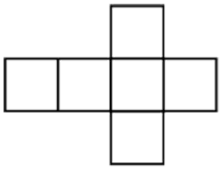
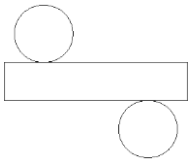
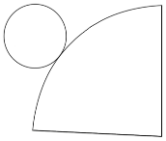
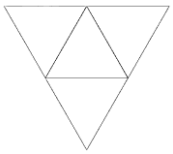
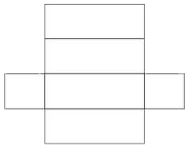
Terms used:
face (the flat surface of an object);
edge (where 2 sides meet);
vertex (the point where a number of edges meet);
prism (a 3D object with opposite ends identical);
pyramid (a 3D object that has triangular sides);
base (the face on which the object rests);
identical (exactly the same)



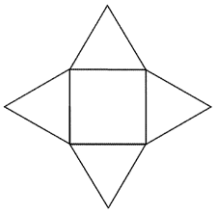
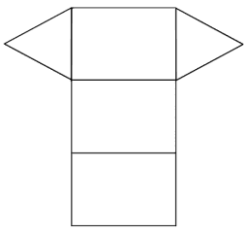
- # Nets of 3D objects.

A net is a plan for construction a 3D object.

What 3D object would these nets make up?

A_____ B_____ C_____ D_____ E_____

F_____ G_____

- ## GEOMETRIC PATTERNS

Geometric patterns are made by drawing shapes and trying to find the patterns made by the shapes and the rules which help you to find the next shape in the pattern.

When trying to find the RULE, the first thing to do is to find out how you get from one shape to the next. Look at the first and second shapes – what is the difference. This number will form part of your RULE.

Look at this example:

Pattern number	1	2	3	4	6	8	12	35
Matches used	4	8	12					

The difference between pattern no.1 and pattern no.2 is 4.
The RULE will be be **pattern number X 4**

Sometimes you may have also have to **add or subtract as well as multiply to find the RULE**

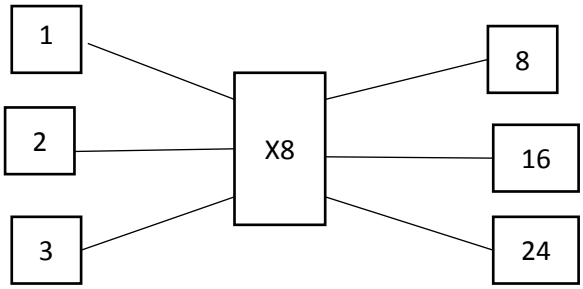
What would the rule be for the following?

Pattern	**1**	**2**	**3**	**5**	**7**	**9**	**15**	**26**
matches	**6**	**9**	**12**	**18**	**24**	**30**	**48**	**81**

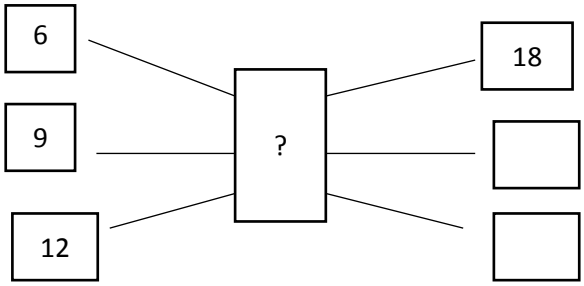
REMEMBER: the rule must apply to all the patterns!

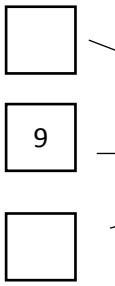
- ## FLOW DIAGRAMS

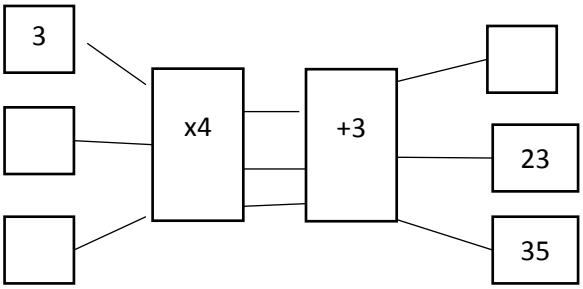
Flow diagrams are like a machine in a factory! They need an INPUT, a RULE and an OUTPUT.

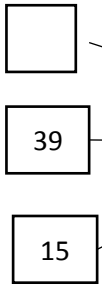


This is another way of showing the pattern tables
COMPLETE THESE FLOW DIAGRAMS









Did you remember to do the OPPOSITE operation when working

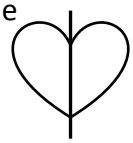
- ## SYMMETRY

Terms used:

line symmetry (a shape has line symmetry if it can be folded in such a way that the one half covers the other half exactly).

line of symmetry (a line that divides a shape into two identical halves)

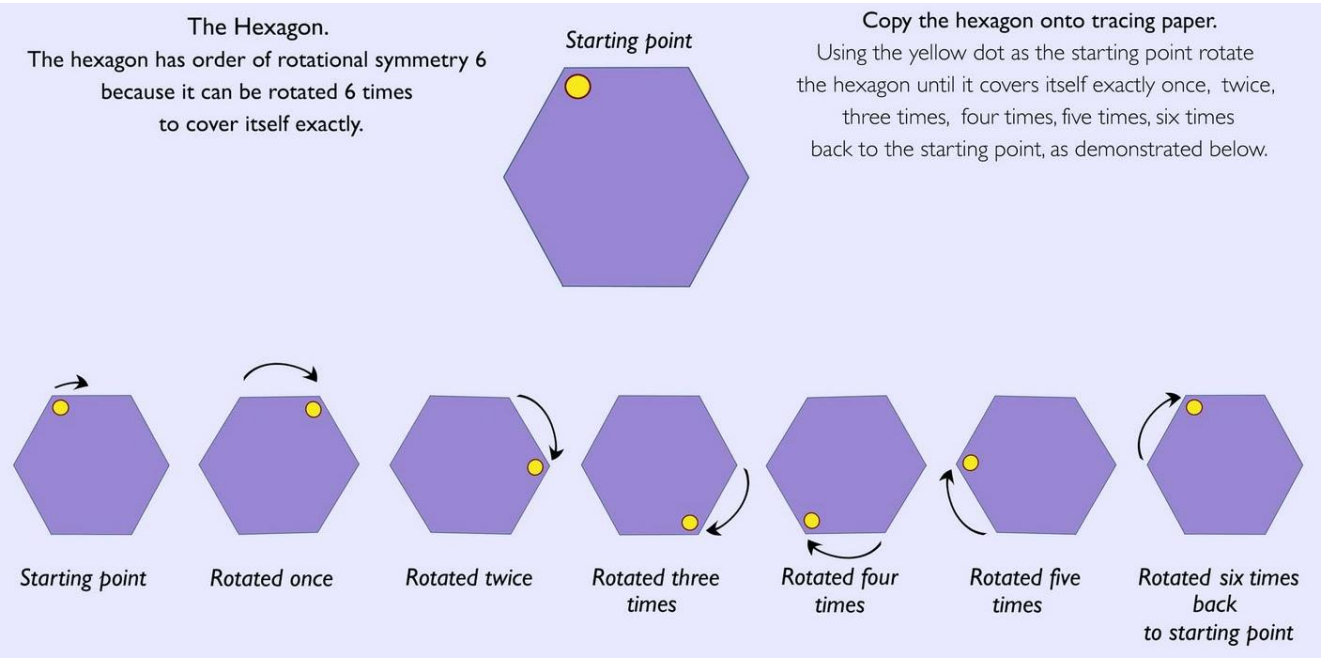
- Some shapes have NO lines of symmetry; some shapes have only one line of symmetry and some shapes have more than one.
- None = irregular shape
- One = heart shape



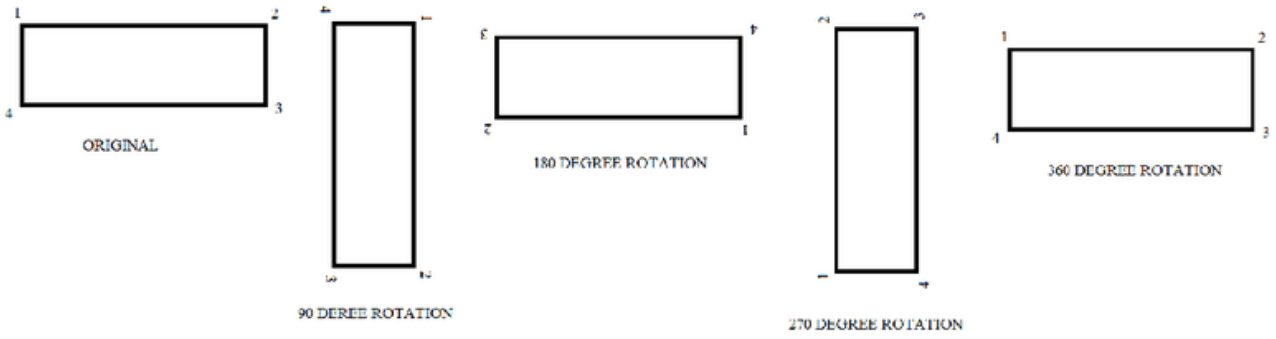
- Many lines = circle

ROTATIONAL SYMMETRY

If a shape has **rotational symmetry** it means that the **shape can be rotated so that it looks exactly like the original shape at least once before completing a full turn.**



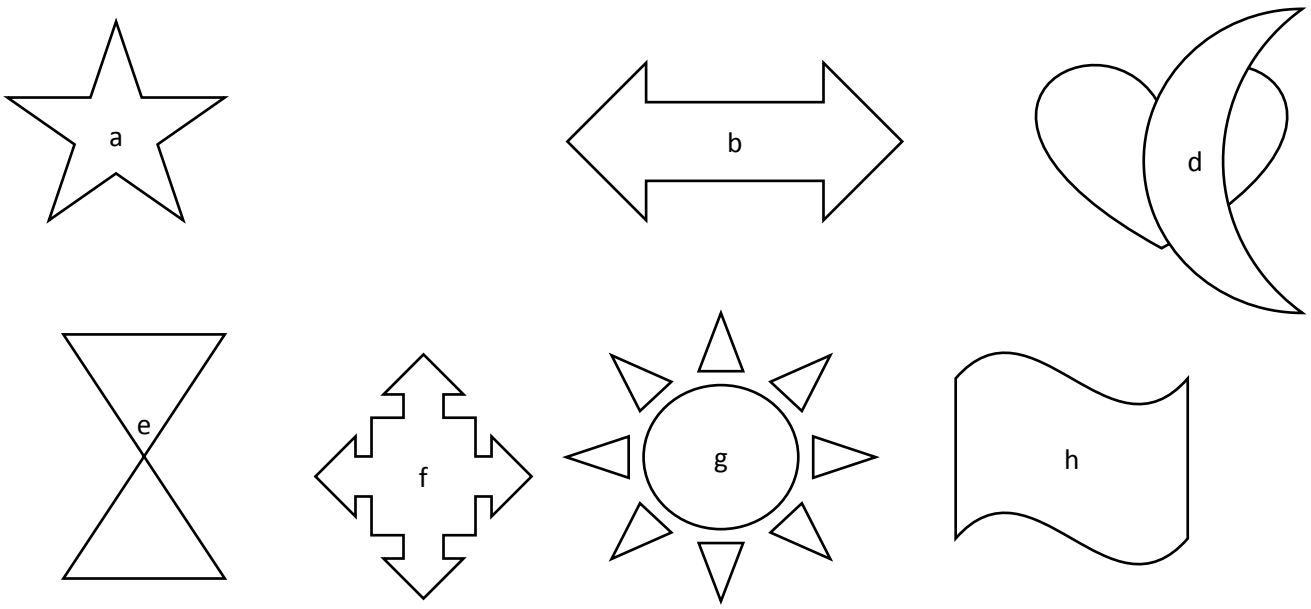
A regular hexagon has rotational symmetry of order 6 and 6 lines of lines of symmetry.



A rectangle has a rotational symmetry of order 2 and 2 lines of symmetry

When you rotate a rectangle through a full turn, it looks exactly like the original only twice. We say it has a **rotational symmetry of order 2**

Look at these shapes and answer the questions:



1. Which shapes line symmetry and rotational symmetry?
2. Which shapes have line symmetry, but not rotational symmetry?
3. Which shapes have rotational symmetry, but no line symmetry?
4. Which shapes do not have line or rotational symmetry?

Good luck with your revision – remember you can come and ask me for help!