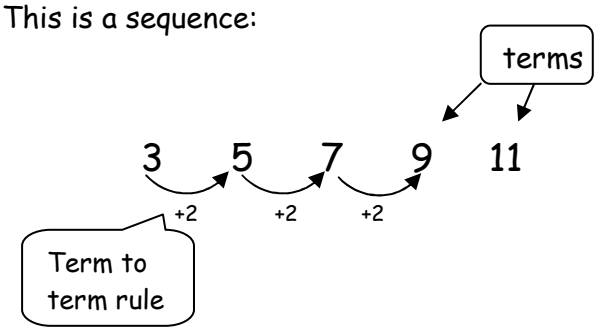
Grade F PROMPT sheet

F/1 Number Patterns

- A list of numbers with a pattern is called a **SEQUENCE**
- The numbers are called **TERMS**
- A **'TERM TO TERM RULE'** tells you how to get from one term to the next

It might be add, subtract, multiply or divide by something

This is a sequence:



F2 Multiples, factors & square numbers

- **FACTORS are what divides exactly into a number**

e.g. Factors of 12 are:

1	12
2	6
3	4

- **MULTIPLES are the times table answers**

e.g. Multiples of 5 are:

5 10 15 20 25 .....

- **SQUARES are the result of multiplying a number by itself**

e.g. 1 x 1 = 1
2 x 2 = 4
3 x 3 = 9

Square numbers

F/3 Multiply & Divide by 10 or 100

- **To multiply by 10, move each digit one place to the left**

e.g. 35.6 x 10 = 356

Hundreds	Tens	Units	•	tenths
	3	5	•	6
3	5	6	•	

- **To divide by 10, move each digit one place to the right**

e.g. 35.6 ÷ 10 = 356= 3.56

Tens	Units	•	tenths	hundredths
3	5	•	6	
	3	•	5	6

- **To multiply by 100, move each digit 2 places to the left**

- **To divide by 100, move each digit 2 places to the right**

F3 Multiply & Divide by 10 or 100 AN ALTERNATIVE METHOD

Instead of moving the digits
Move the decimal point the opposite way

F4 Fraction, decimal, percentage equivalents

LEARN THESE:

$\frac{1}{4}$ = 0.25 = 25%

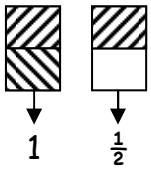
$\frac{1}{2}$ = 0.5 = 50%

$\frac{3}{4}$ = 0.75 = 75%

F5 Convert mixed numbers to improper fractions & vv

- **An improper fraction is top heavy & can be changed into a mixed number**

$\frac{3}{2}$ can be shown in a diagram



$\frac{3}{2} = 1\frac{1}{2}$

Improper fraction | Mixed number

- **A mixed number can be changed back into an improper fraction**

$1\frac{1}{2} = \frac{3}{2}$

$2\frac{3}{4} = \frac{11}{4}$

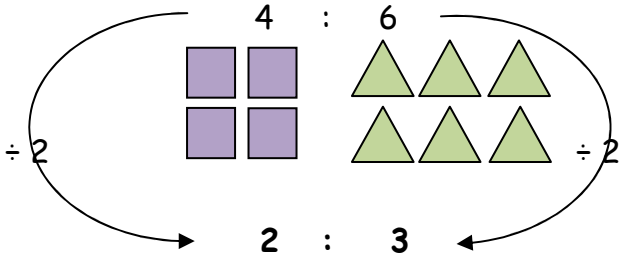
F6 Simple ratio

The ratio of squares to triangles

can be written

squares : triangles

4 : 6



2 : 3

Ratios can be simplified just like fractions

F7 Use inverse operations

- To undo ADD, just SUBTRACT

e.g. 36 + 23 = 59 (59 – 36 = 23)

- To undo MULTIPLY, just DIVIDE

e.g. 7 x 3 = 21 (21 ÷ 7 = 3)

- Use balancing:

20 + ☐ = 20 × 4

20 + ☐ = 80

20 + 60 = 80 (80– 20 = 60)

F8 Brackets in calculations

A calculation must be done in the correct order

1. Brackets
2. Indices, Division and Multiplication
3. Addition and Subtraction

Using this order I get 3 different answers:

3 + 6 x 5 – 1 = 32

(3 + 6) x 5 – 1 = 44

3 + 6 x (5 – 1) = 27

It all depends on where the bracket is

F9 Times tables up to 10x10

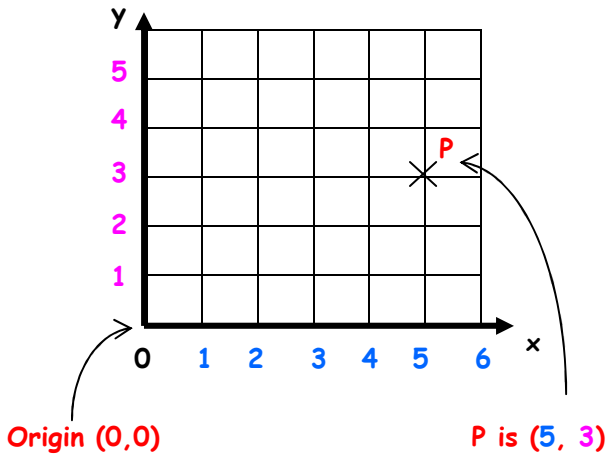
It is important to know the times tables and the division facts that go with them

Example

9 x 7 = 63
63 ÷ 9 = 7
63 ÷ 7 = 9

F11 Coordinates in first quadrant

- The horizontal axis is the x-axis
- The vertical axis is called the y-axis
- The origin is where the axes meet
- A point is described by two numbers
  The 1st number is off the x-axis
  The 2nd number is off the y-axis



F12 Written methods for addition

- Line up the digits in the correct columns

e.g. 48 + 284 + 9

H	T	U	
	4	8	
2	8	4	
1	2	9	+
3	4	1	

F12 Written methods for subtraction

- Line up the digits in the correct columns

e.g. 645 - 427

H	T	U	
6	$^{3}\not{4}$	$^{1}5$	
4	2	7	-
2	1	8	

F12 Written methods for multiplication

e.g. 38 x 7

	30	8
7	210	56

210 + 56 = 266

F12 Written methods for division

e.g. 125 ÷5

BUS SHELTER METHOD

$$5\overline{)\,1\,{}^{1}2\,{}^{2}5} \quad 0\;2\;5$$

CHUNKING METHOD

e.g. 125 ÷5

$$5\overline{)\,125}$$

100 (20 x 5)

25 (5 x 5)

25

125 ÷5 = 25

F13 Add & subtract decimals

- Line up the digits and the decimal points

e.g. 28.5 + 0.37 + 7

2	8	.	5	
	0	.	3	7
			7	
3	5	.	8	7

F13 Multiply a decimal

e.g. 28.5 x 3

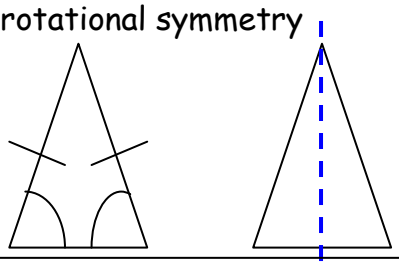
2	8	.	5	
^{2}	^{1}		3	x
8	5	.	5	

F14 Properties of 2D shapes

TRIANGLES – angles add up to 180^0

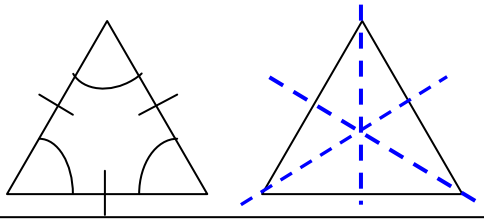
Isosceles triangle

- 2 equal sides
- 2 equal angles
- 1 line of symmetry
- No rotational symmetry



Equilateral triangle

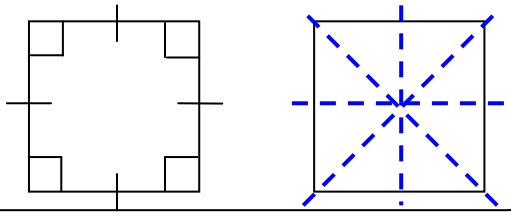
- 3 equal sides
- 3 equal angles - 60^0
- 3 lines of symmetry
- Rotational symmetry order 3



QUADRILATERALS – all angles add up to 360^0

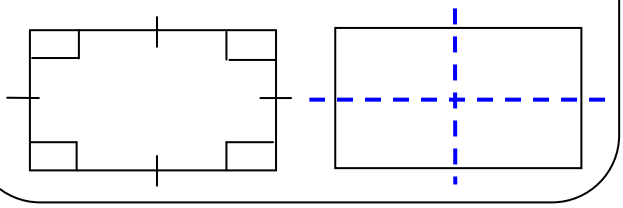
Square

- 4 equal sides
- 4 equal angles - 90^0
- 4 lines of symmetry
- Rotational symmetry order 4



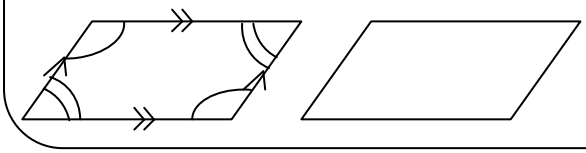
Rectangle

- Opposite sides equal
- 4 equal angles - 90^0
- 2 lines of symmetry
- Rotational symmetry order 2



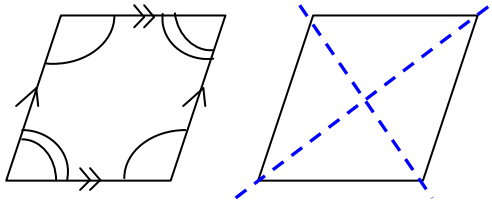
Parallelogram

- Opposite sides parallel
- Opposite angles equal
- NO lines of symmetry
- Rotational symmetry order 2



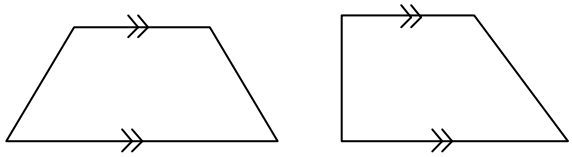
Rhombus (like a diamond)

- Opposite sides parallel
- Opposite angles equal
- 2 lines of symmetry
- Rotational symmetry order 2



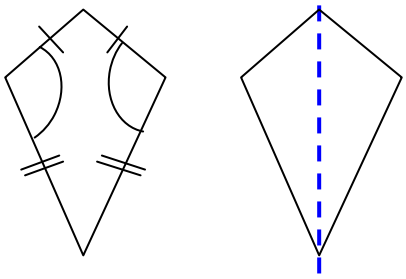
Trapezium

- ONE pair opposite sides parallel



Kite

- One pair of opposite angles equal
- 2 pairs of adjacent sides equal
- ONE line of symmetry
- No rotational symmetry

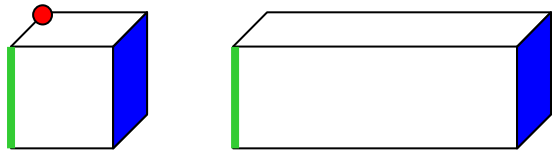


F14 Properties of 3D shapes

PRISMS- same cross section through length

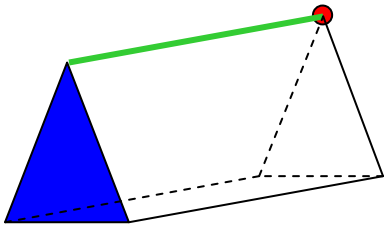
Cube and cuboid

- 6 faces
- 12 edges
- 8 vertices

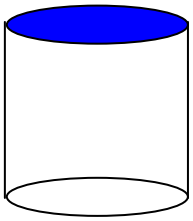


Triangular prism

- 5 faces
- 9 edges
- 8 vertices



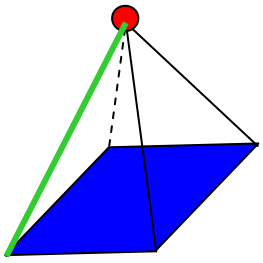
Cylinder – special prism



PYRAMIDS- a point opposite the base

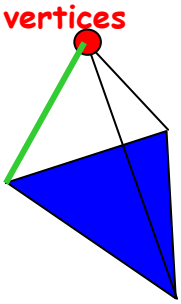
Pyramid – square based

- 5 faces
- 8 edges
- 5 vertices

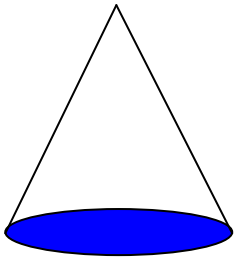


Pyramid – triangular based

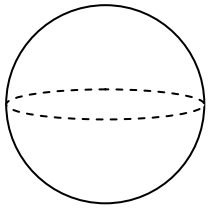
- 4 faces
- 6 edges
- 4 vertices



Cone – special pyramid

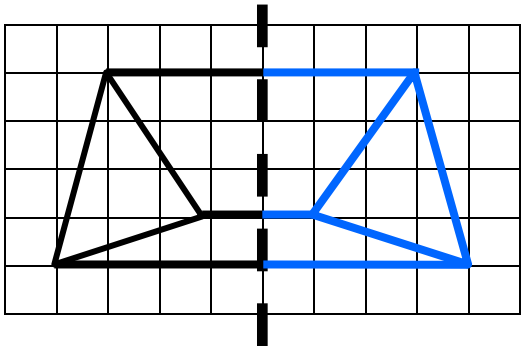


SPHERES- ball shape

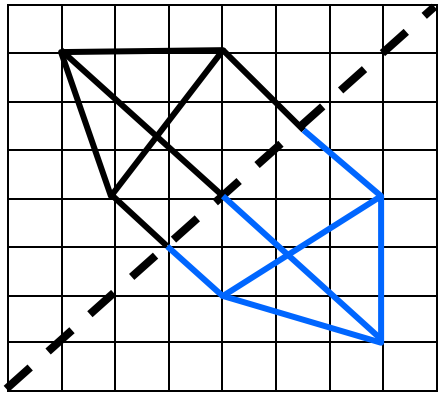


F15 Reflect in a mirror line

- To reflect a shape in a vertical line



- **To reflect a shape in a 45^0 line**



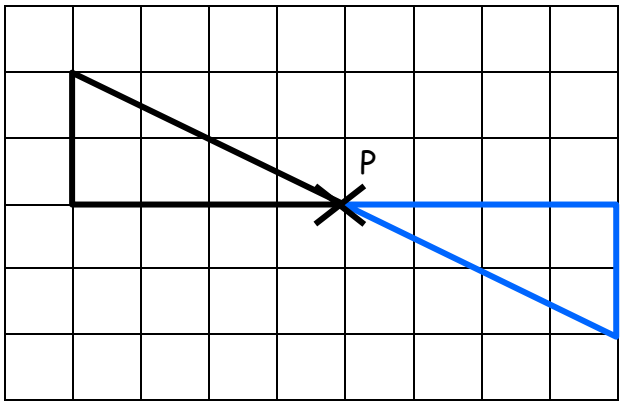
Distances from shape to mirror and mirror to reflection must be same

Tracing paper is useful:

1. Trace the shape & the mirror line
2. Flip the tracing paper over the mirror line
3. Redraw the shape in its new position

F16 Rotate a shape

- **To rotate a shape 180^0 about P**

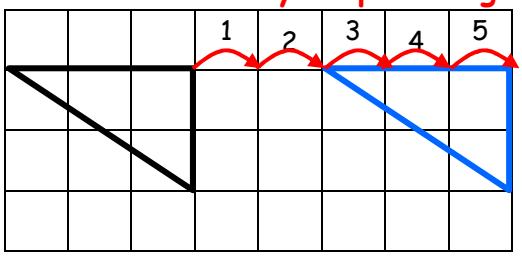


Tracing paper is useful:

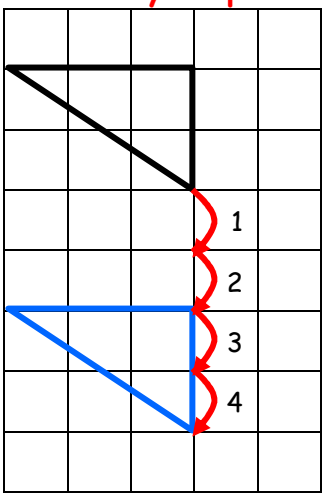
1. Trace the shape
2. Hold the shape down with a pencil
3. Rotate tracing paper
4. Redraw the shape in its new position

F16 Translate a shape

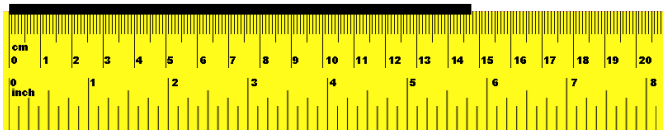
- **Move horizontally 5 spaces right**



- **Move vertically 4 spaces down**

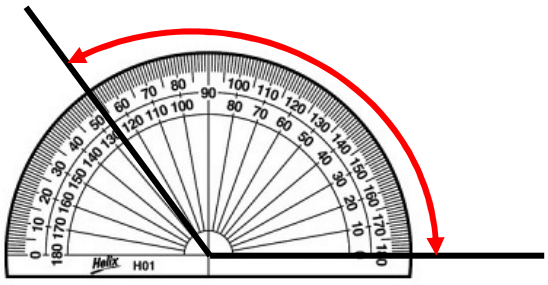


F17 Use a ruler accurately



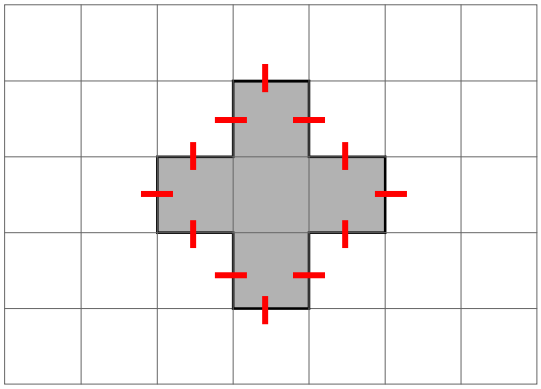
Measure from 0
This line is 14.7cm long

Use a protractor accurately



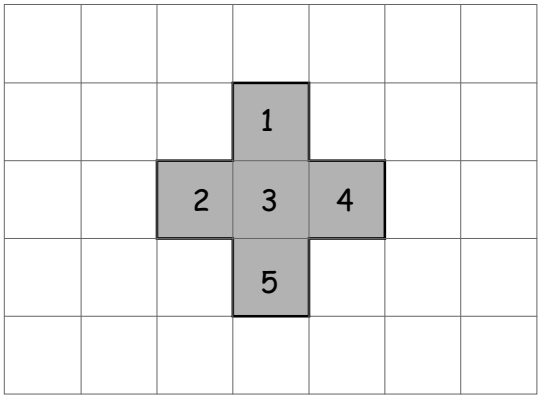
Count the number of degrees between the 2 arms of the angle. This angle is 127^0

F18 Find perimeter of simple shapes



- **Perimeter** is round the **OUTSIDE**

Perimeter of this shape = 12cm



- **Area** is the number of squares **INSIDE**

Area of this shape = 5cm^2

F19 Record using a frequency table

Score on dice	Tally	Frequency
1	𝍸 𝍸	10
2	IIII	4
3	𝍸 I	6
4	III	3
5	𝍸 III	8
6	I	1

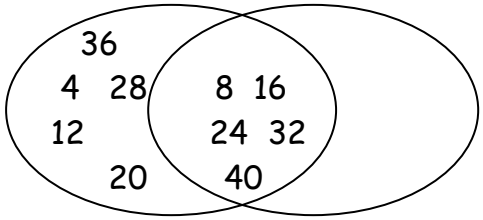
F19 Record using a grouped frequency table

Weight(w)	Tally	Frequency
$15 \leq w < 20$		
$20 \leq w < 25$		
$25 \leq w < 30$		
$30 \leq w < 35$		
$35 \leq w < 40$		

F20 Use a Venn Diagram

- **To place these numbers onto a Venn diagram**

4 8 12 16 20 24 28 32 36 40



Multiples of 4 Multiples of 8

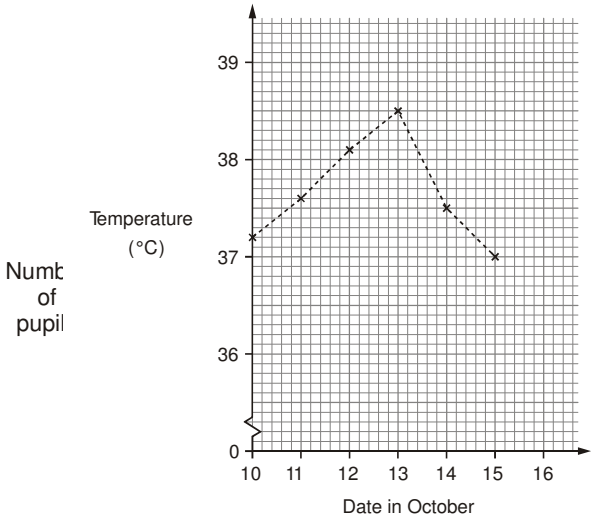
- **To place these numbers onto a Carroll diagram**

25 27 14 47 36 37 67
64 16 9 11

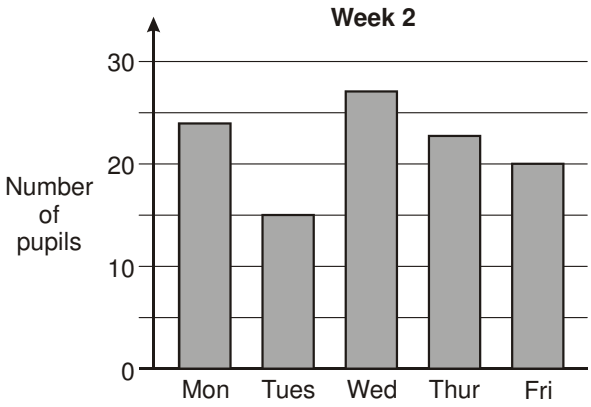
	Square number	Not a square number
Odd number of factors	9 16 25 36 64	
Even number of factors		11 14 27 47 37 67

F21 Construct/interpret graphs

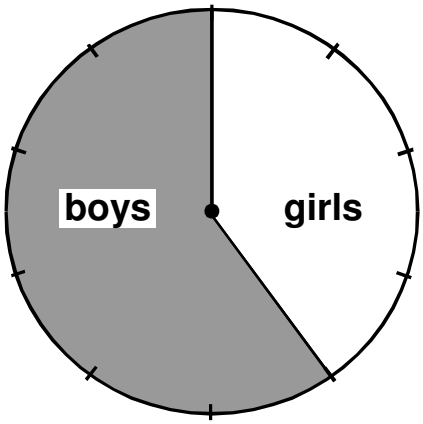
- **Line graph - temperature**



- **Bar graph – Number of pupils at a youth club**



- **Pie chart – Number of pupils in the yard**



F22 Mode and Range

- **Mode is the most frequent measure**
- **Range is highest minus lowest measure**

F23 Language of probability

- **Probability words are used to describe how likely it is that an event will happen.**

Examples of probability words are

- **certain**
- **likely**
- **even chance**
- **unlikely**
- **impossible**

Other words:

- **Equally likely** – when all outcomes have the same chance of occurring
- **Biased** – when all outcomes do NOT have the same chance of occurring