

Numbers can be ordered by looking at the value of each digit

Example:

To order 83 3 87 8 80 78

	Tens	Units				
	T	U				
	8	3				
	0	3				
	8	7				
	0	8				
	8	0				
	7	8				

The order would be;

3	8	78	80	83	87
smallest					largest

Multiples mathswatch 28

- Multiples are the number sequences that make up the tables

Example

The multiples of 2 are:

2	4	6	8	10	...
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Place value Mathswatch 1

The position of the digit gives its size

	thousands	hundreds	tens	units	•	tenths	hundredths
+	4	3	5	2	•	6	1

Example

The value of the digit '4' is 4000
The value of the digit '3' is 300

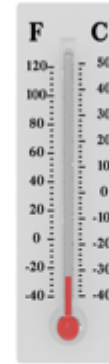
- **FACTORS** are what divides exactly into a number

e.g. Factors of 12 are:

1	12
2	6
3	4

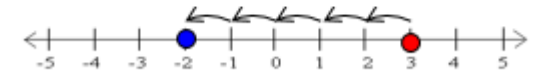
Negative numbers Mathswatch 23

- These can be seen on a thermometer



The numbers below freezing (0°) are negative

- Number line to work out sums



$$3 - 5 = -2$$

Multiply & divide by 10, 100, 1000

(Mathswatch 30)

- By moving the digits

To multiply by 10 move the dp ONE place RIGHT

e.g. 3.52×10

$$= 35.2$$

Rounding decimals (Mathswatch 31 and 32)

- Look at the digit required
- Look at the first digit NOT required

e.g. To round 5.**4**7 to 1dp



e.g. To round 5.**4**3 to 1dp



Rounding to estimate answers

(Mathswatch 91)

- To estimate round to 1 digit greater than 0 (1 significant figure)

e.g. $35.6 \times 4.21 \approx 40 \times 4 = 160$

Written method for addition

Mathswatch 17

- Line up the digits in the correct columns

e.g. $132 + 239$

H	T	U	
1	3	2	
2	3	9	+
3	7	1	

Written method for

subtraction

Mathswatch 18

- Line up the digits in the correct columns

e.g. $327 - 119$

H	T	U	
3	2	7	
1	1	9	-
2	0	8	

Methods for multiplying mathswatch 19

$$38 \times 3$$

Column method

$$\begin{array}{r} 38 \\ 23 \times \\ \hline 114 \end{array}$$

Grid method

	30	8
3	90	24

$$90 + 24 = \underline{114}$$

Partitioning method

$$\begin{aligned} 38 \times 3 \\ &= 30 \times 3 + 8 \times 3 \\ &= 90 + 24 \\ &= 114 \end{aligned}$$

e.g. $4928 \div 32$

SHORT DIVISION METHOD

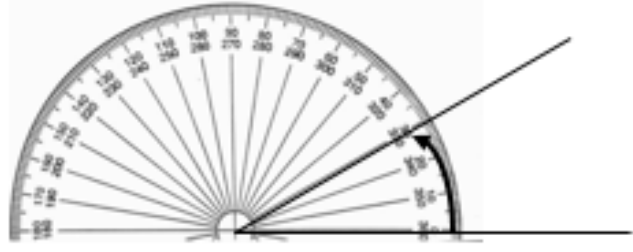
(Except write down some of your tables down first)

32
64
96
128
160

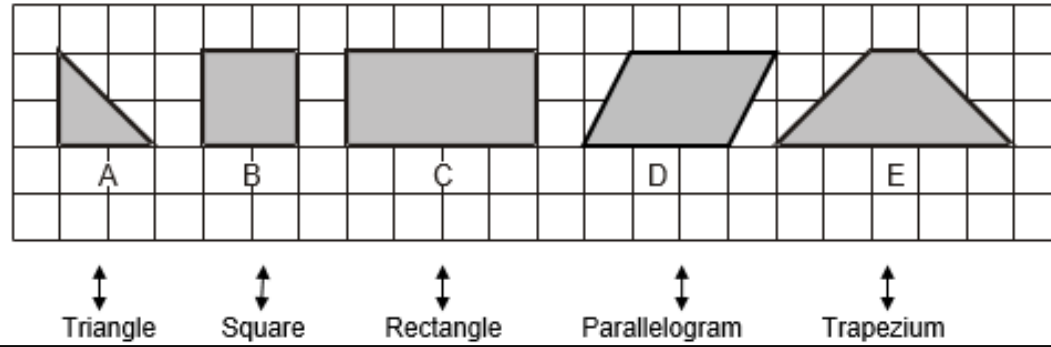
$$\begin{array}{r} 0154 \\ 32 \overline{)49172} \\ \underline{32} \\ 17 \\ \underline{16} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

$$4928 \div 32 = \underline{154}$$

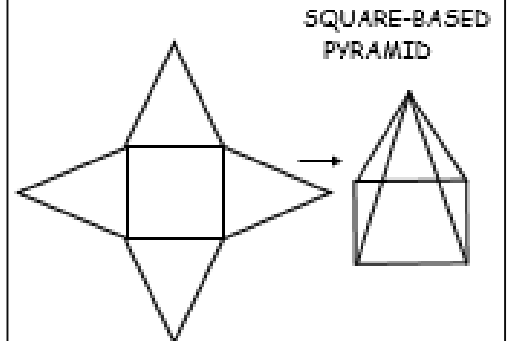
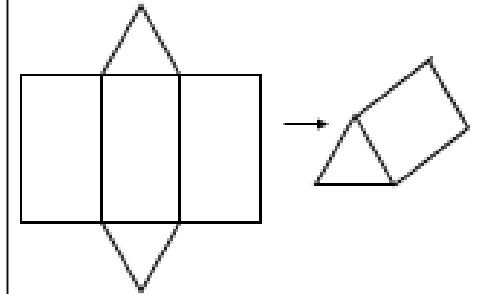
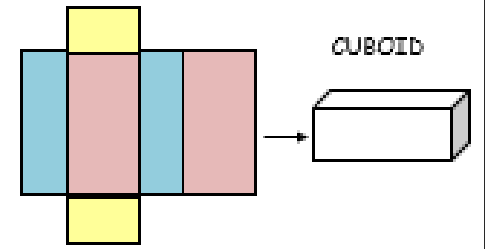
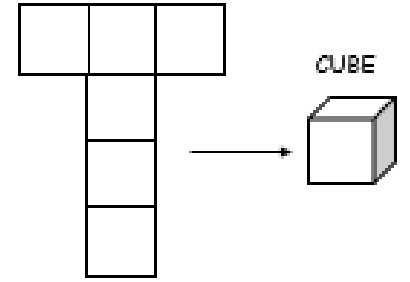
ANGLE is the amount of turn
This angle is 30°



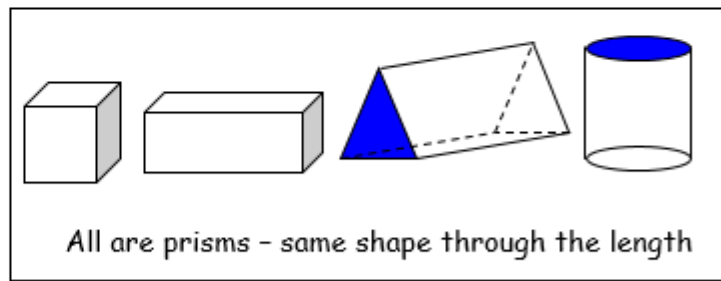
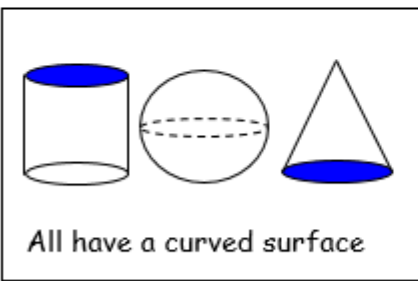
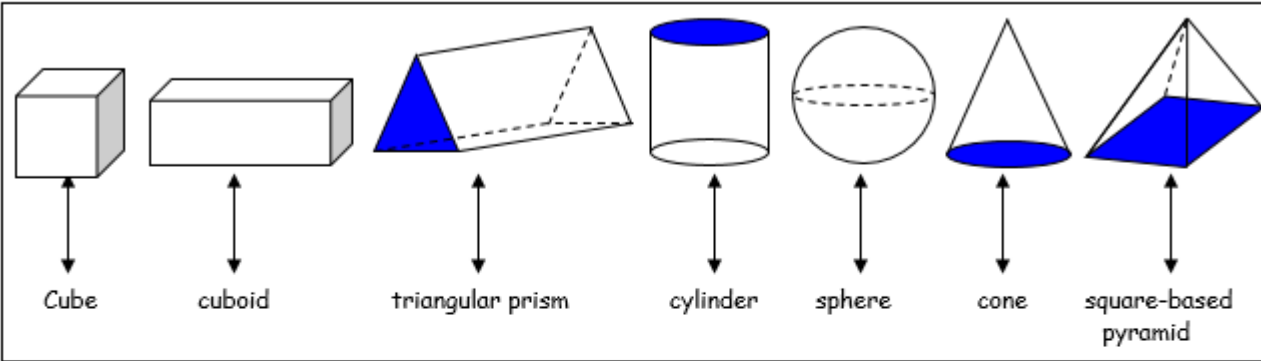
Mathswatch 9 & G14



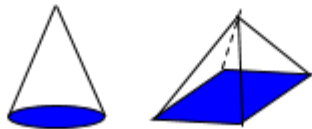
Nets of 3D shapes mathswatch 44 & G12c



Classify 3D shapes Mathswatch 43 & G12a&b

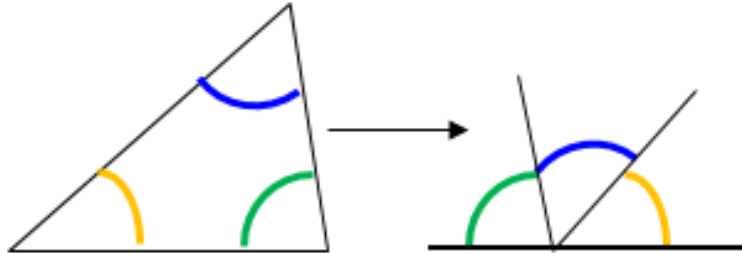


Pyramids go to a point

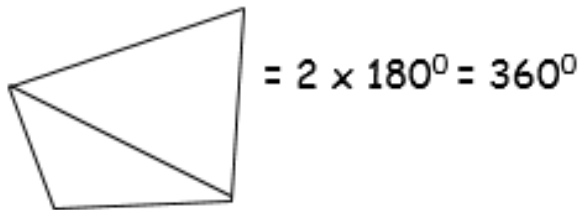


Year 8 Term 1 Visualising and Constructing

Angles of a triangle - add up to 180°



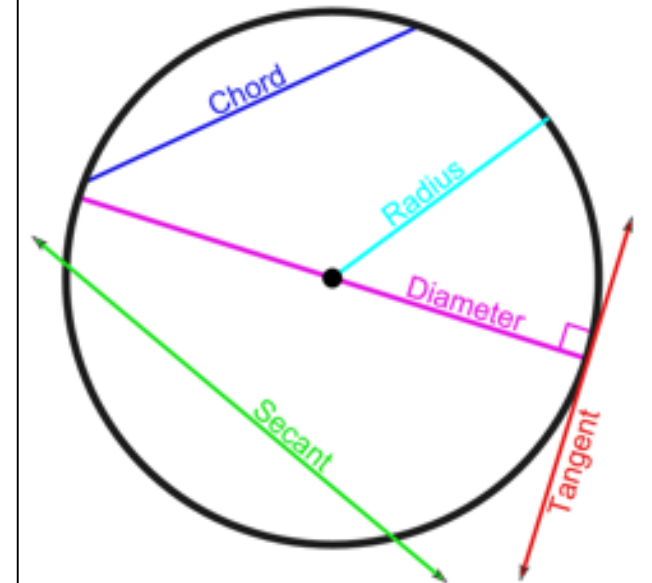
Angles of a quadrilateral add up to 360°



Angles and polygons (Mathswatch 123)

- ~Polygons have straight sides
- ~Polygons are named by the number sides
 - 3 sides - triangle
 - 4 sides - quadrilateral
 - 5 sides - pentagon
 - 6 sides - hexagon
 - 7 sides - heptagon
 - 8 sides - octagon
 - 9 sides - nonagon
 - 10 sides - decagon
- ~With ALL sides equal they are called REGULAR

A Tangent forms 90 degrees to the radius or diameter



Secant is rarely used in this geometry context