Year 3 PROMPT sheet

Count in multiples

Now you must learn these multiples

Multiples of 4	Multiples of 8	Multiples of 50	Multiples of 100
0	0	0	0
4	8	50	100
8	16	100	200
12	24	150	300
16	32	200	400
20	40	250	500
24	48	300	600
28	56	350	700
32	64	400	800
36	72	450	900
40	80	500	1000

hundreds	tens	units
3	5	2

- **To find 10 more or 10 less,**

it is the 'tens digit' that changes
10 more than 352 becomes 362
10 less than 352 becomes 342

hundreds	tens	units
3	5	2

- **To find 100 more or 100 less,**

it is the 'hundreds' digit that changes
100 more than 352 becomes 452
100 less than 352 becomes 252

Recognise place value

hundreds	tens	units
3	5	2

352 means 300 + 50 + 2

Numbers in words and figures

In order to put FIGURES into WORDS, we must try to imagine that the number is in a PLACE VALUE table like this one

Hundred	Ten	Unit
1	4	7
One hundred	forty	seven
One hundred and forty-seven		

Hundred	Ten	Unit
4	0	9
Four hundred		nine
Four hundred and nine		

Compare and order numbers

- Write numbers lining up the digits

Hundred	Ten	Unit
1	4	7
6	3	2
1	7	6
1	6	2

- Begin at the hundreds and compare
  632 is the biggest

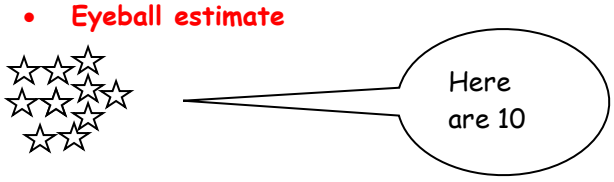
Hundred	Ten	Unit
1	4	7
~~6~~	~~3~~	~~2~~
1	7	6
1	6	2

- Move to the tens and compare

Order is: 632, 176, 162, 147

Estimating

- **Eyeball estimate**



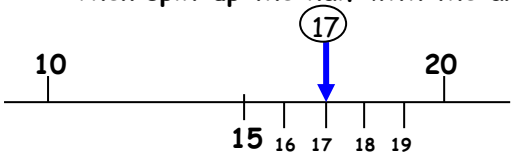
Use this to estimate larger quantities

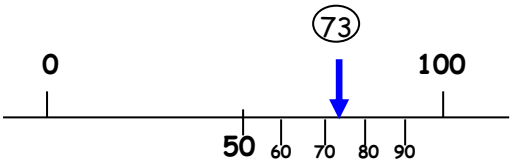
- **Estimate by sampling**

Count your pulse over 15seconds
Multiply the number of pulses by 4 to get the pulse rate over 1 minute (15 x 4 = 60seconds)

- **Estimate on a number line**

Fill in the half way number first
Then split up the half with the arrow





- **Estimate by rounding off a number**

To make a sum easier and give a rough answer

Example: 28 could be rounded to 30
£1.95 could be rounded to £2

Solve problems by estimating

Example: Estimate the cost of 5 magazines at £1.95 each

Answer: It is about 5 x £2 = £10

Example: When full this bottle holds 400ml.
Estimate how much water is left in this bottle.

400ml

Answer: about 150ml

.....?

Add 3 digit numbers mentally

Partitioning

236 + 319

200 + 30 + 6 + 300 + 10 + 9
= 500 + 40 + 15
= 555

Subtract 3 digit numbers mentally

363 - 126

Partitioning

363 – 100 – 20 – 6
=263 – 20 – 6
=243-6
=237

Counting on from 126

(126) + 4
130 + 3
133 + 230
=363
Answer = 237

Written method for addition

- **Line up the digits in the correct columns**

e.g. 132 + 239

H	T	U	
1	3	2	
2	3_1	9	+
3	7	1	

Written method for subtraction

- **Line up the digits in the correct columns**

e.g. 327 - 119

H	T	U	
3	$\not{2}^{1}$	7^{1}	
1	1	9	-
2	0	8	

Estimate answers to calculations

- Round off each number
- Then do the calculation
- Check using the inverse

Example: Estimate 83 – 28

80 – 30 = 50
Inverse: 50 + 30 = 80 ✔

Missing number problems

Fact family for +/-

34 + 23 = 57

57 - 23 = 34

23 + 34 = 57

57 – 34 = 23

Know the 3, 4 and 8 times tables

1	x	3	=	3	1	x	4	=	4	1	x	8	=	8
2	x	3	=	6	2	x	4	=	8	2	x	8	=	16
3	x	3	=	9	3	x	4	=	12	3	x	8	=	24
4	x	3	=	12	4	x	4	=	16	4	x	8	=	32
5	x	3	=	15	5	x	4	=	20	5	x	8	=	40
6	x	3	=	18	6	x	4	=	24	6	x	8	=	48
7	x	3	=	21	7	x	4	=	28	7	x	8	=	56
8	x	3	=	24	8	x	4	=	32	8	x	8	=	64
9	x	3	=	27	9	x	4	=	36	9	x	8	=	72
10	x	3	=	30	10	x	4	=	40	10	x	8	=	80
11	x	3	=	33	11	x	4	=	44	11	x	8	=	88
12	x	3	=	36	12	x	4	=	48	12	x	8	=	96

Fact family for x/÷

9 x 8 = 72

72 ÷ 9 = 8

8 x 9 = 72

72 ÷ 8 = 9

Multiply & divide

- A 2-digit number by a single digit

Column method

$$\begin{array}{r} 3\ 8 \\ \times\ 3 \\ \hline 1\ 1\ 4 \\ \hline {\scriptstyle 2} \end{array}$$

Grid method

	30	8
3	90	24

90 + 24 = 114

Partitioning method

38 x 3
= 30 x3 + 8 x 3
= 90 + 24
= 114

Multiply & divide

- Look for connections between two sums
- Remember the fact family for x/÷

Example: 6 x 4 = 24 (x10) So 60 x 4 = 240
So 240 ÷ 4 = 60

Example: 9 x 8 = 72 (x2) So 18 x 8 = 144
So 144 ÷ 8 = 18

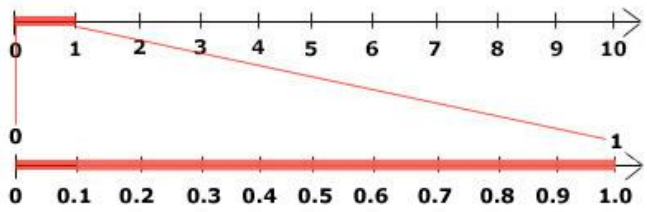
Tenths

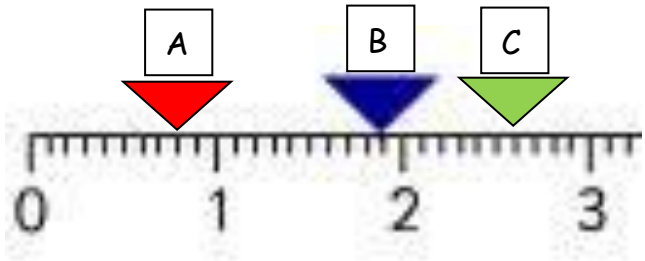
tens	units	•	tenths
8	2	•	6

- This represents 6 tenths = $\frac{6}{10}$

Counting in tenths

- A whole one divided into 10 equal parts
- 1 ÷ 10 = 1 tenth or $\frac{1}{10}$ Or 0.1





A = 0.8 B = 1.9 C = 2.6

Write a fraction of a number of object

$\frac{2}{5}$ are blue and $\frac{3}{5}$ are red

Use fractions as numbers

Example: To find a tenth of an object or quantity you divide by 10

$\frac{1}{10}$ of 20 = 20 ÷ 10 = 2

To find $\frac{1}{5}$ of 20 we do 20 ÷ 5 = 4

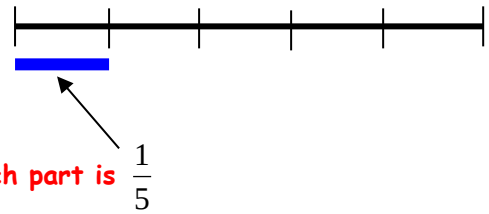
To find $\frac{2}{5}$ of 20 we do 4 x 2 = 8

To find $\frac{3}{5}$ of 20 we do 4 x 3 = 12

Fraction of line or objects

- To find $\frac{1}{5}$ of a line

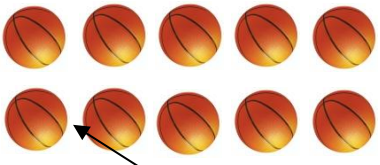
  Divide the line into 5 equal parts



Each part is $\frac{1}{5}$

- To find $\frac{1}{5}$ of a set of objects

  Divide objects into 5 equal parts

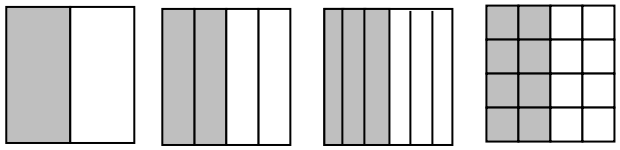


Each part is $\frac{1}{5}$

Equivalent fractions

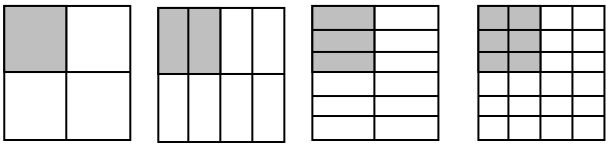
- The same fraction can be expressed in different ways

ALL THESE ARE $\frac{1}{2}$



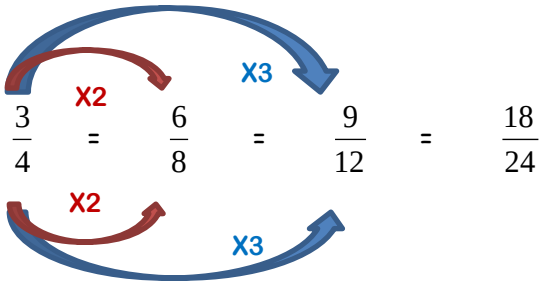
$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{8}{16}$

ALL THESE ARE $\frac{1}{4}$



$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{6}{24}$

Finding equivalent fractions



Add & subtract fractions

- To add and subtract fractions

When the denominators are the same

$\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$

Do not add the denominators

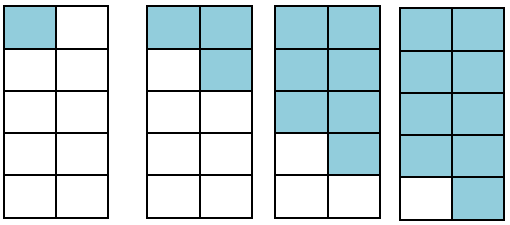
$\frac{5}{7} - \frac{1}{7} = \frac{4}{7}$

Do not subtract the denominators

Compare fractions

- **Fractions with the same denominator**

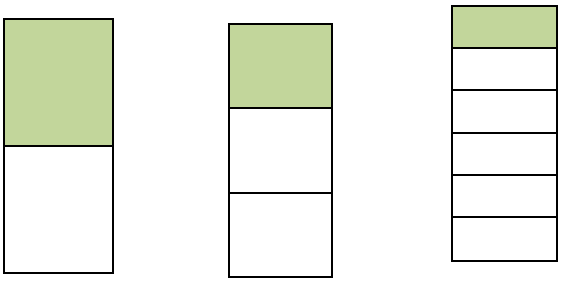
$\frac{1}{10}$ $\frac{3}{10}$ $\frac{7}{10}$ $\frac{9}{10}$



The bigger the numerator, the bigger the fraction

- **Unit Fractions**

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{6}$

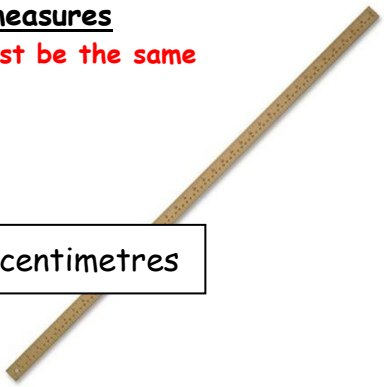


The bigger the denominator, the smaller the fraction

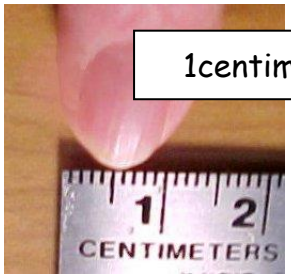
Add & subtract measures

- **The units must be the same**

Length – Example

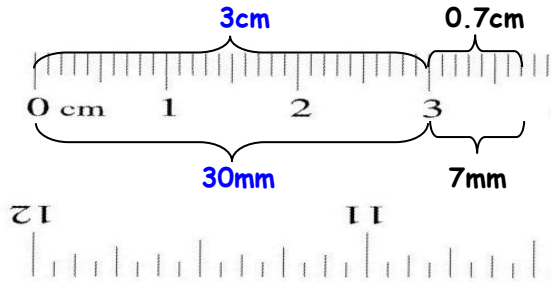


1metre = 100centimetres

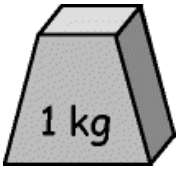


1centimetre = 10millimetres

3cm + 7mm
= 30mm + 7mm
= 37mm
or 3cm 7mm or 3.7cm



Mass – Example

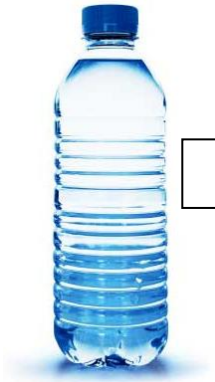


= 1000g 

3kg – 450g
= 3000g – 450g
= 2550g
or 2kg 550g or 2.55kg

3/19 Add & subtract measures (continued)

Volume – Example



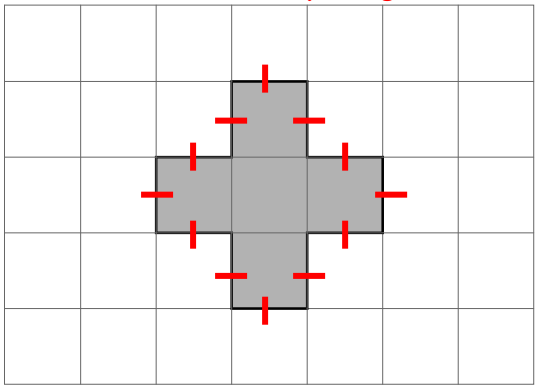
1litre = 1000millilitres

800ml + 720ml
= 1520ml
= 1 litre and 520ml
= 1.52 litres

Perimeter

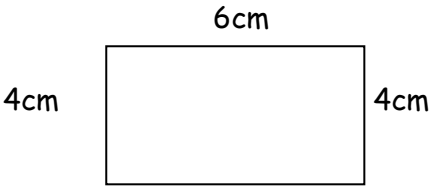
PERIMETER is the distance round the outside of a shape

- **On a centimetre square grid – count round**



Perimeter of this shape = 12cm

- **Measurements given - add up all round**

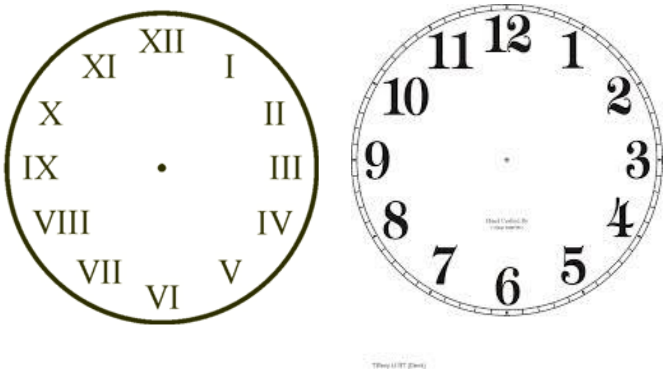


Perimeter of this shape = 6 + 4 + 6 + 4 = 20cm

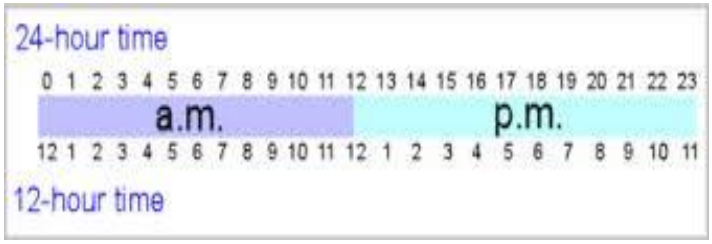
Time

Analogue clock

Roman **Hindu-Arabic**



12- and 24-hour clock



Time

Reading the time

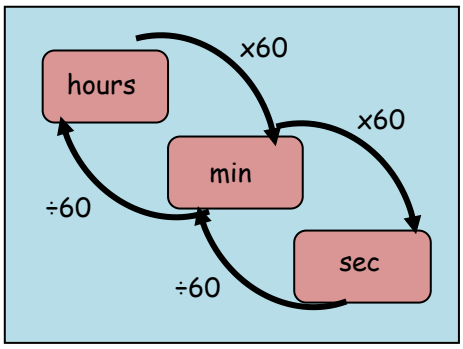
5 minutes between each number- so this time is 1:27 or we say 27 minutes past 1

O'clock
Quarter past
Half past
Quarter to

Times of the day in 12-hour clock

Morning	Afternoon
12.00 midnight	12.00 noon
1.00 am	1.00 pm
2.00 am	2.00 pm
3.00 am	3.00 pm
4.00 am	4.00 pm
5.00 am	5.00 pm
6.00 am	6.00 pm
7.00 am	7.00 pm
8.00 am	8.00 pm
9.00 am	9.00 pm
10.00 am	10.00 pm
11.00 am	11.00 pm
12.00 noon	12.00 midnight

Time – hours minutes, seconds



- **Months of the year**

- A rhyme to remember the days in each month

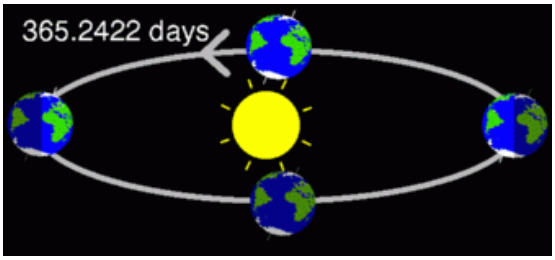
30 days has September,
April, June and November.
All the rest have 31
Except February alone,
Which has 28 and 29 each leap year.

- the 'knuckle' method

A knuckle is "31 days", and in between each knuckle it isn't. And where your hands meet, the two knuckles are "July, August", which both have 31 days.

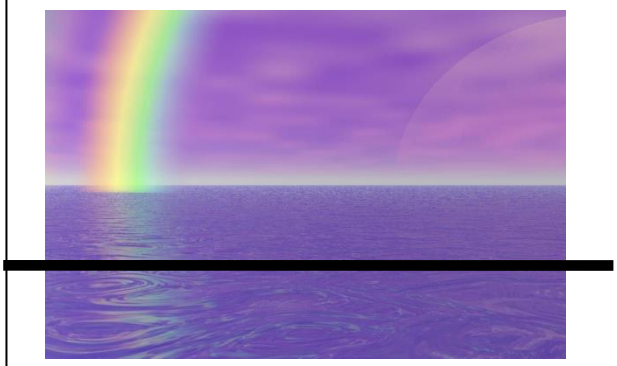
February has 28 days & 29 days in a leap year (every 4 years)

Days in a year

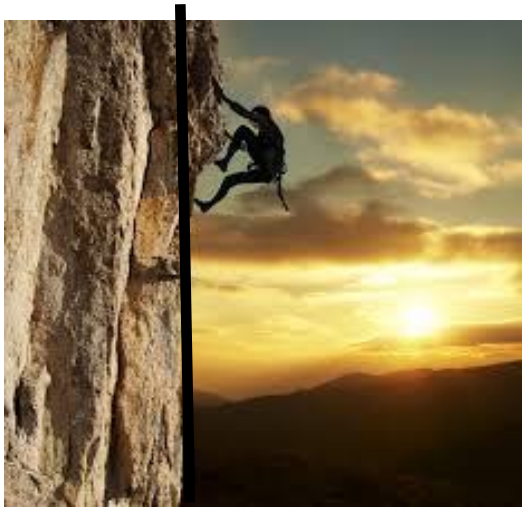


365 days in a year **366 in a leap year**

The Horizon is a horizontal line

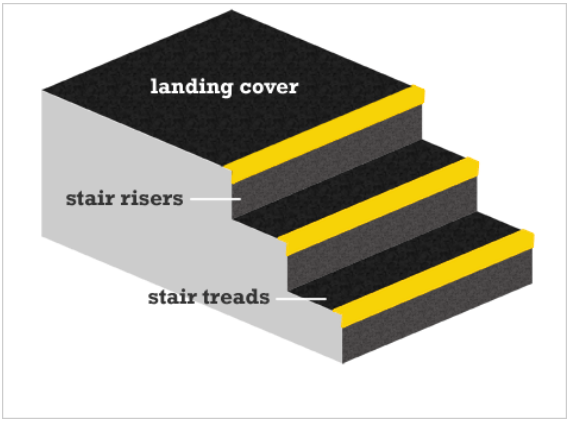


This cliff face is a vertical line



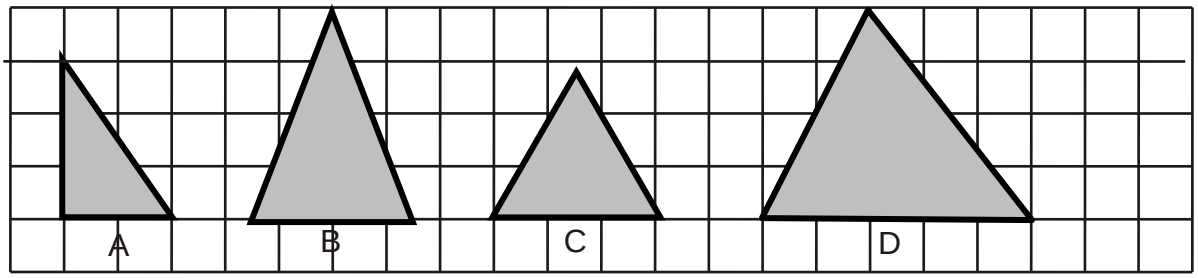
The running track is parallel lines (never meet)

The rise & tread are perpendicular lines (meet at 90°)



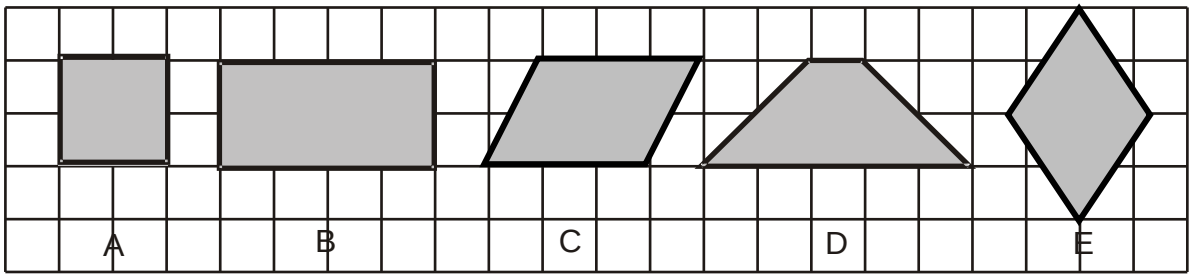
2D Shapes

- **With 3 sides (Triangles)**



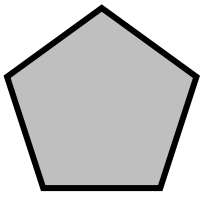
right-angled isosceles equilateral scalene

- **With 4 sides (Quadrilaterals)**

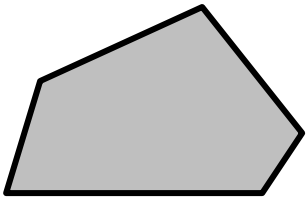


square rectangle parallelogram trapezium rhombus

- **With 5 sides (Pentagons)**

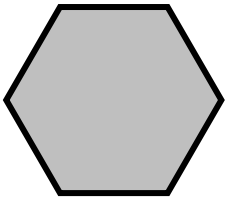


regular

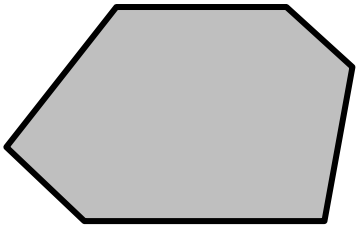


irregular

With 6 sides (Hexagons)

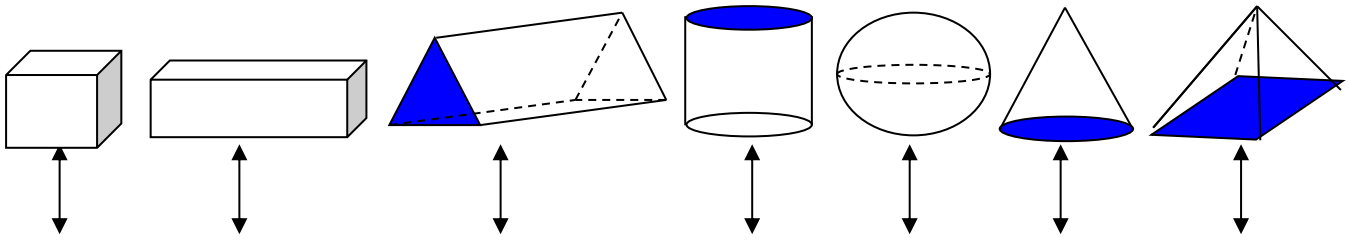


regular



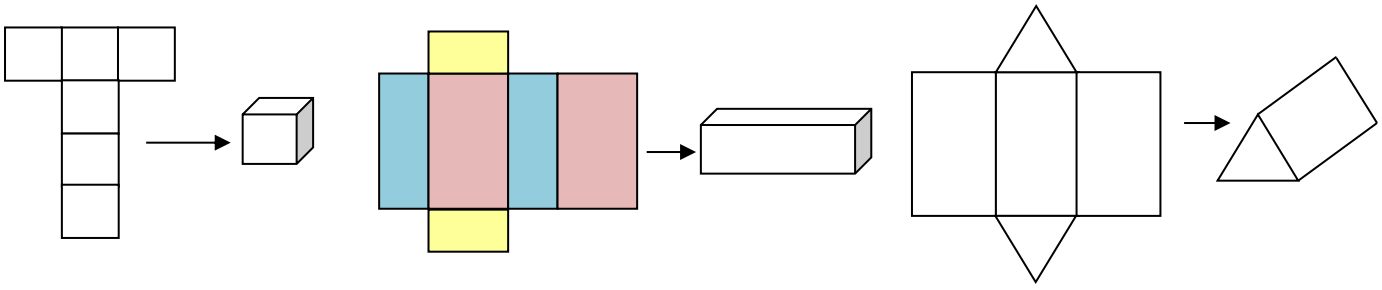
irregular

3/25 – 3D Shapes



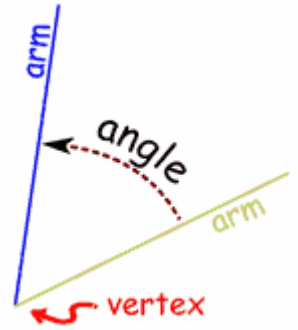
Cube cuboid triangular prism cylinder sphere cone square-based Pyramid

- **Nets**



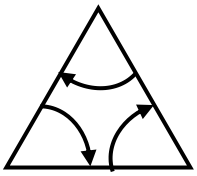
Angles

- **An angle is an amount of turn**

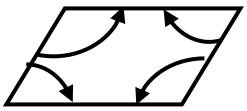


- **Angles in shapes**

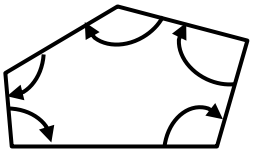
Triangle - 3 angles



Quadrilateral - 4 angles

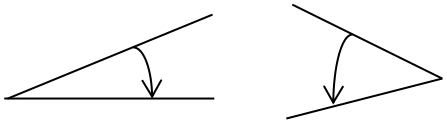


Pentagon – 5 angles

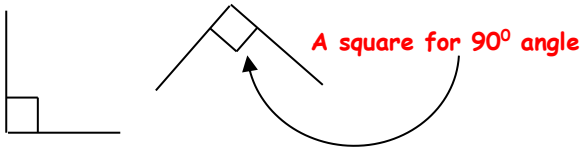


- **Names of angles**

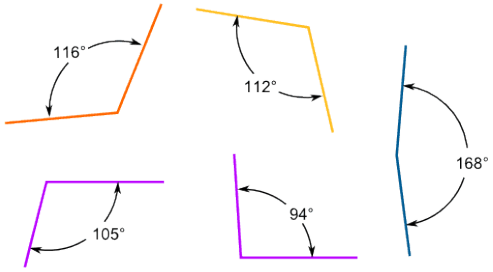
ACUTE angles are less than 90^0



RIGHT angles are exactly 90^0

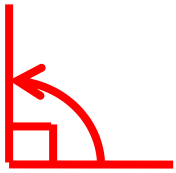


OBTUSE angles are bigger than 90^0

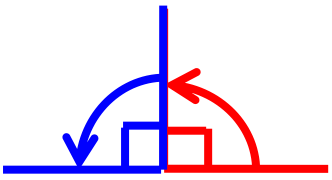


Right angles

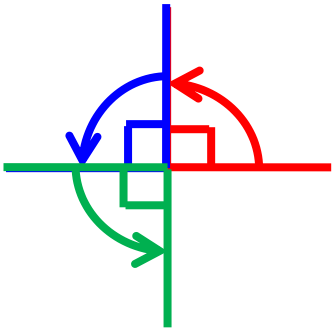
ONE right angle measures exactly 90^0



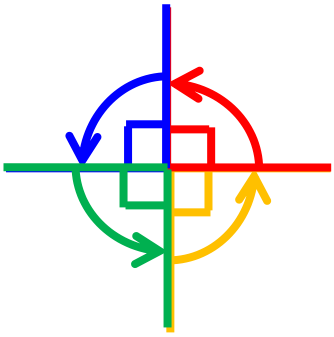
TWO right angles measure exactly 180^0
This is called a half-turn



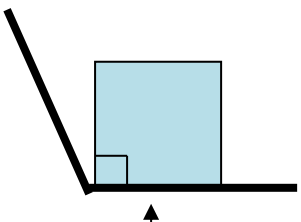
THREE right angles measure exactly 270^0
This is called three quarters of a turn



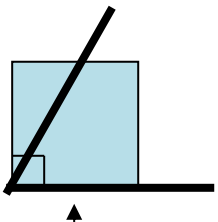
FOUR right angles measure exactly 360^0
This is called a full or complete turn



To check if an angle is bigger or smaller than a right angle, use a square corner



This angle is greater than a right angle



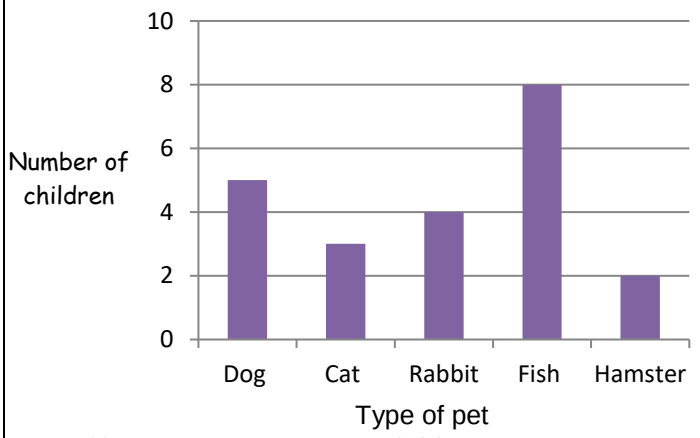
This angle is less than a right angle

Bar charts

Frequency table to show pets owned by Year 3

Type of pet	Tally	Number of pets
Dog	𝍸	**5**
Cat	III	**3**
Rabbit	IIII	**4**
Fish	𝍸 III	**8**
Hamster	II	**2**

A bar graph to show pets owned by Year 3



(i) How many **more** children own a rabbit than a hamster?

Answer: 4-2 = 2

(ii) What is the **difference** between the number of children who own a dog and the number of children who own a cat?

Answer: 5 – 3 = 2

(iii) How many pets are owned **altogether** by the children Year 3?

Answer: 5 + 3 + 4 + 8 + 2 = 22

Pictogram to show the colours in a tube of Smarties

Colour	Number of Smarties
Green	
Orange	
Blue	
Pink	
Yellow	
Red	
Purple	
Brown	
	Key = 2 smarties

(i) How many **fewer** blue smarties are there than yellow ones?

Answer: 11 – 5 = 6

(ii) Work out the **total** number of smarties in the tube

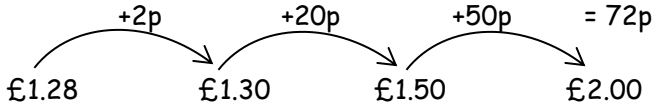
Answer: 55

Bills and change

To work out a bill

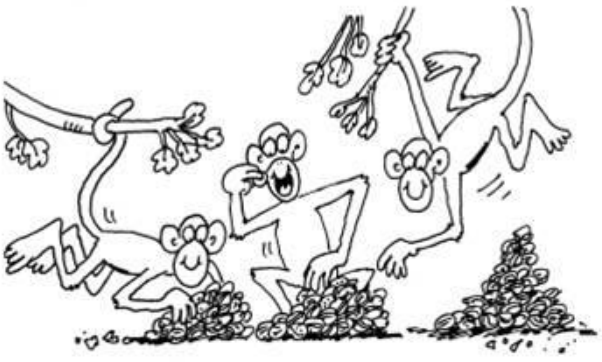
1 chocolate bar - £1.10
1 pen – 10p
1 pencil – 8p
Total = £1.28

To find change by the 'add-on' method



Challenge using and playing with numbers

Three monkeys



Three monkeys ate a total of 25 nuts.
Each of them ate a different odd number of nuts.

How many nuts did each of the monkeys eat?
Find as many different ways to do it as you can.