



K.G.V.

# Year 3 Maths Revision Guide

## 3/1 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

## 3/2 Recognise place value

| hundreds | tens | units |
|----------|------|-------|
| 3        | 5    | 2     |

352 means 300 + 50 + 2

## 3/3 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 |     |      |

## 3/3 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            |
| <del>6</del> | <del>3</del> | <del>2</del> |
| 1            | 7            | 6            |
| 1            | 6            | 2            |

- Move to the tens and compare  
Order is: 632, 176, 162, 147



### 3/8 Estimate answers to calculations

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

Example: Estimate  $83 - 28$

$$80 - 30 = 50$$

$$\text{Inverse: } 50 + 30 = 80 \checkmark$$

### 3/9 Missing number problems

**Fact family for +/-**

$$34 + 23 = 57$$

$$57 - 23 = 34$$

$$23 + 34 = 57$$

$$57 - 34 = 23$$

### 3/10 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/÷**

$$9 \times 8 = 72$$

$$72 \div 9 = 8$$

$$8 \times 9 = 72$$

$$72 \div 8 = 9$$

### 3/11 Multiply & divide

- A 2-digit number by a single digit

#### Column method

$$\begin{array}{r} 38 \\ \times 3 \\ \hline 114 \\ \hline 2 \end{array}$$

#### Grid method

|   |    |    |
|---|----|----|
|   | 30 | 8  |
| 3 | 90 | 24 |

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

#### Partitioning method

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

### 3/12 Multiply & divide

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

Example:  $6 \times 4 = 24$       So  $60 \times 4 = 240$   
 So  $240 \div 4 = 60$

Example:  $9 \times 8 = 72$       So  $18 \times 8 = 144$   
 So  $144 \div 8 = 18$

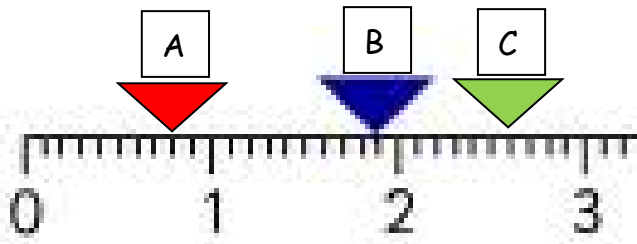
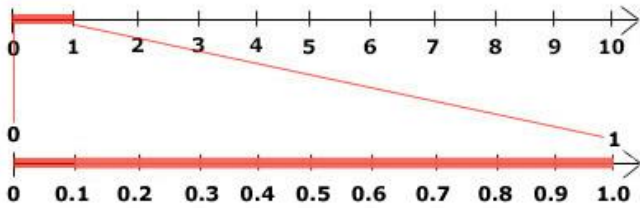
### 3/13 Tenths

|      |       |   |        |
|------|-------|---|--------|
| tens | units | • | tenths |
| 8    | 2     | • | 6      |

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

### Counting in tenths (continued)

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



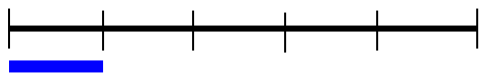
A - 0.8  
B - 1.9  
C - 2.6

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

Example:  $\frac{1}{10}$  of 20 =  $20 \div 10 = 2$

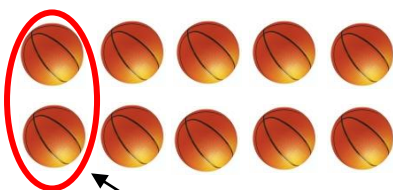
### 3/14 Fraction of line or objects

- 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  $\frac{1}{5}$

### 3/14 Write a fraction of a number of object



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

### 3/15 Use fractions as numbers

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

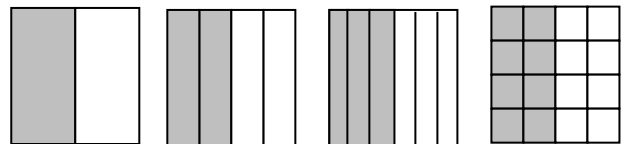
To find  $\frac{2}{5}$  of 20 we do  $4 \times 2 = 8$

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

### 3/16 Equivalent fractions

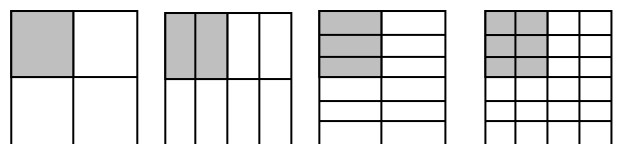
- The same fraction can be expressed in different ways

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



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

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



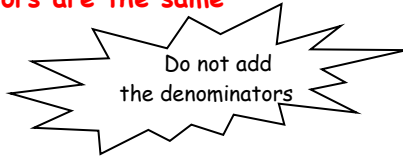
$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$$

### 3/17 Add & subtract fractions

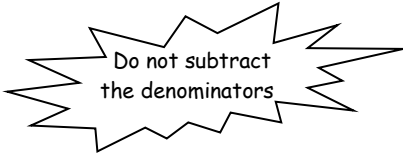
- To add and subtract fractions

When the denominators are the same

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



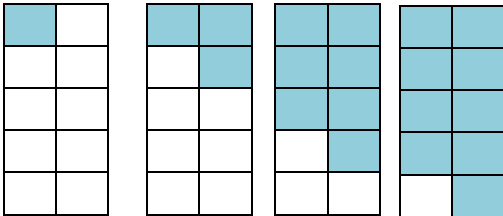
$$\frac{5}{7} - \frac{1}{7} = \frac{4}{7}$$



### 3/18 Compare fractions

- Fractions with the same denominator

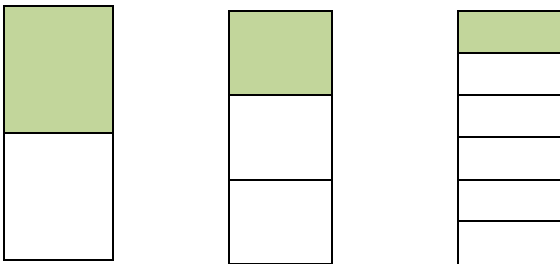
$$\frac{1}{10} \quad \frac{3}{10} \quad \frac{7}{10} \quad \frac{9}{10}$$



The bigger the numerator, the bigger the fraction

- Unit Fractions

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

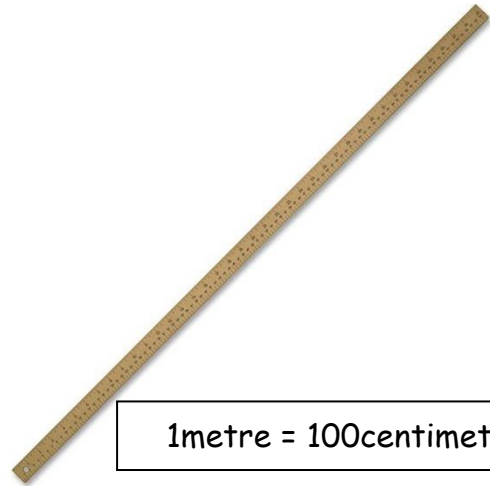


The bigger the denominator, the smaller the fraction

### 3/19 Add & subtract measures

- The units must be the same

#### Length - Example

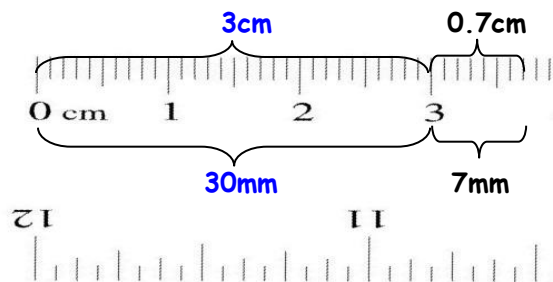


1metre = 100centimetres

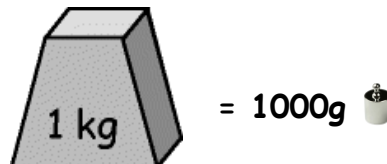


1centimetre = 10millimetres

$$\begin{aligned} & 3\text{cm} + 7\text{mm} \\ &= 30\text{mm} + 7\text{mm} \\ &= 37\text{mm} \\ &\text{or } 3\text{cm } 7\text{mm or } 3.7\text{cm} \end{aligned}$$



#### Mass - Example



$$\begin{aligned} & 3\text{kg} - 450\text{g} \\ &= 3000\text{g} - 450\text{g} \\ &= 2550\text{g} \\ &\text{or } 2\text{kg } 550\text{g or } 2.55\text{kg} \end{aligned}$$

### 3/19 Add & subtract measures (continued)

#### Volume - Example



1litre = 1000millilitres

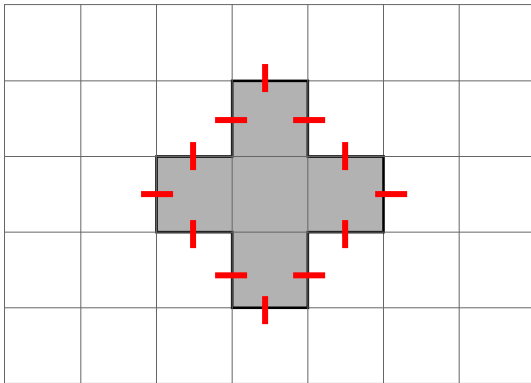


$$\begin{aligned} & 800\text{ml} + 720\text{ml} \\ & = 1520\text{ml} \\ & = 1 \text{ litre and } 520\text{ml} \\ & = 1.52 \text{ litres} \end{aligned}$$

### 3/20 Perimeter

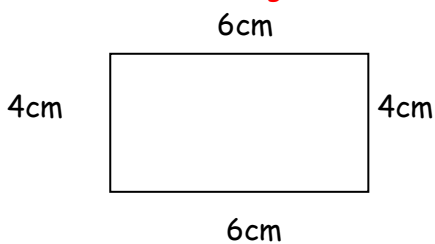
PERIMETER is the distance round the outside of a shape

- On a centimetre square grid - count round



Perimeter of this shape = 12cm

- Measurements given - add up all round



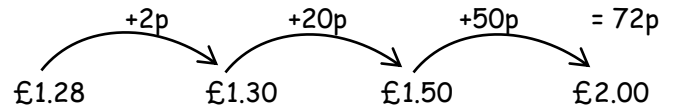
Perimeter of this shape =  $6 + 4 + 6 + 4 = 20\text{cm}$

### 3/21 Bills and change

To work out a bill

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

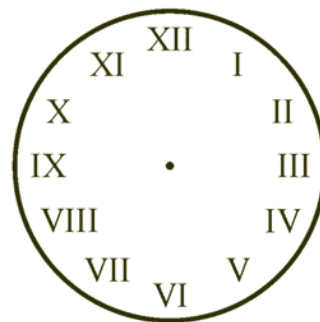
To find change by the 'add-on' method



### 3/22 Time

#### Analogue clock

Roman

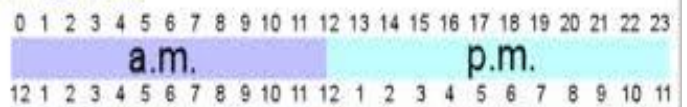


Hindu-Arabic



#### 12- and 24-hour clock

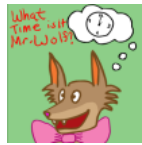
##### 24-hour time



##### 12-hour time

### 3/23 Time

#### Reading the time

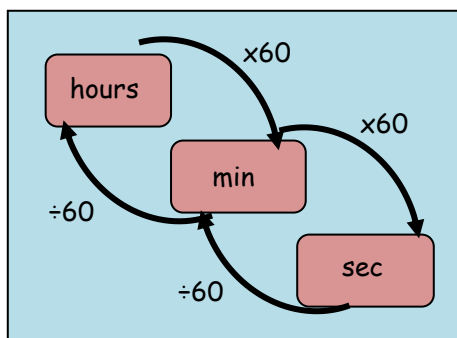


5 minutes between each number- so this time is 1:27 or we say 27 minutes past 1

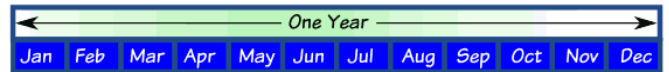
#### Times of the day in 12-hour clock

| 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 |

### 3/24 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 days clear  
And 29 in each leap year.

- the "knuckle method"

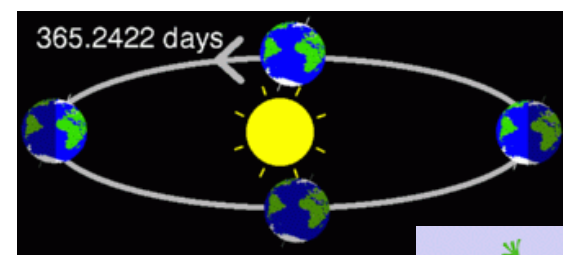


A knuckle is "31 days", and in between each knuckle it isn't.

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



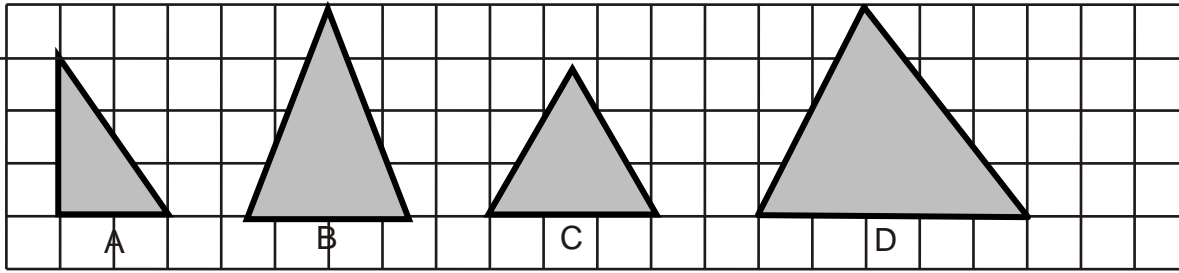
365 days in a year  
366 days in a leap year





3/25 - 2D Shapes

• With 3 sides (Triangles)



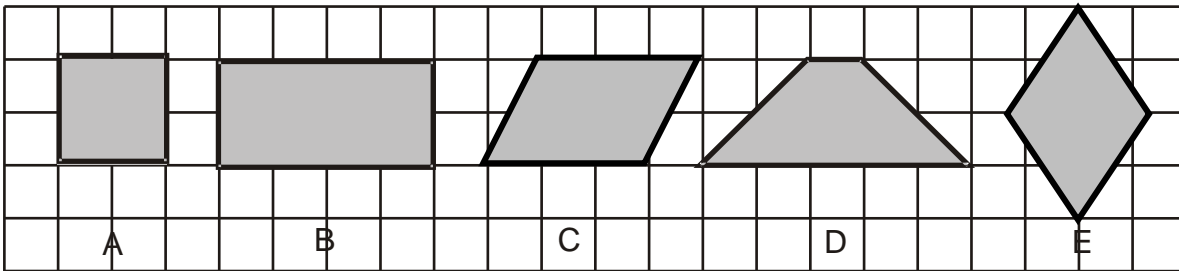
right-angled

isosceles

equilateral

scalene

• With 4 sides (Quadrilaterals)



square

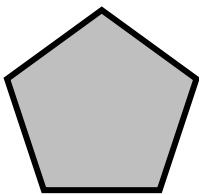
rectangle

parallelogram

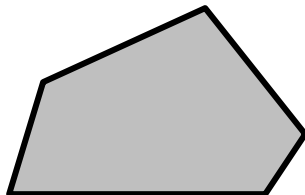
trapezium

rhombus

• With 5 sides (Pentagons)

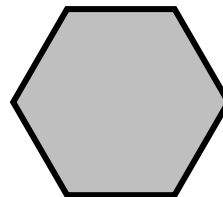


regular

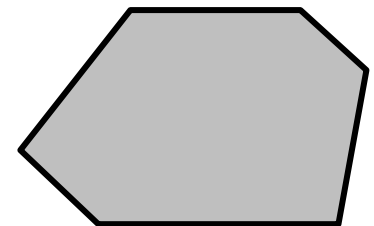


irregular

With 6 sides (Hexagons)

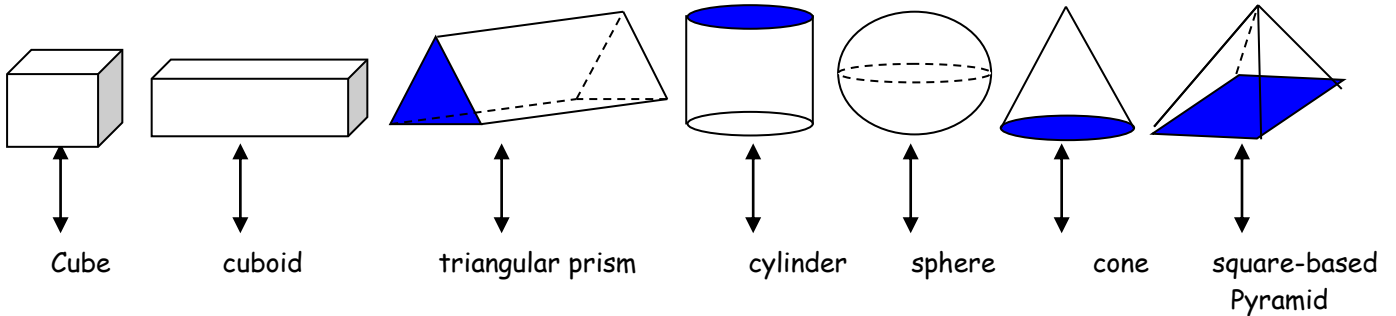


regular

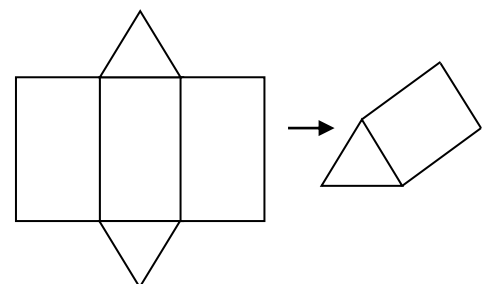
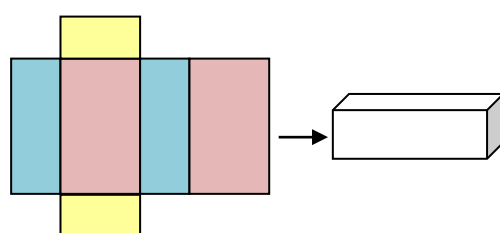
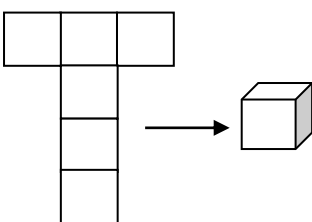


irregular

3/25 - 3D Shapes



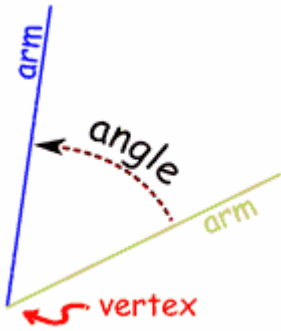
- Nets





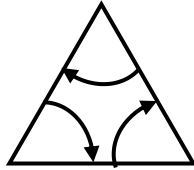
### 3/26 Angle

- An angle is an amount of turn

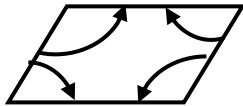


- Angles in shapes

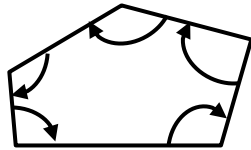
Triangle - 3 angles



Quadrilateral - 4 angles

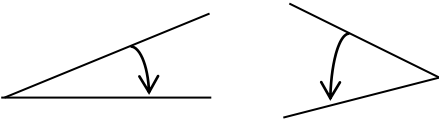


Pentagon - 5 angles

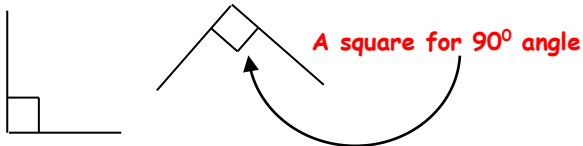


- Names of angles

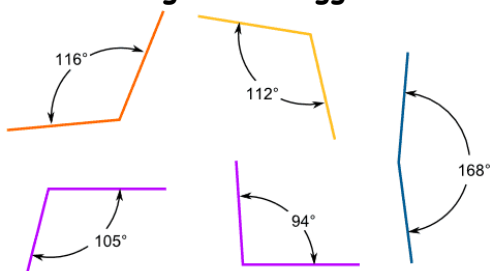
ACUTE angles are less than  $90^\circ$



RIGHT angles are exactly  $90^\circ$

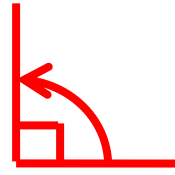


OBTUSE angles are bigger than  $90^\circ$



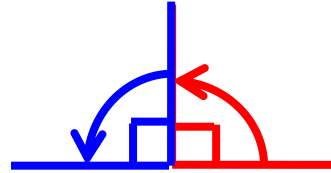
### 3/27 Right angles

ONE right angle measures exactly  $90^\circ$



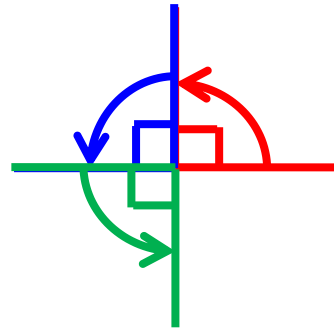
TWO right angles measure exactly  $180^\circ$

This is called a half-turn



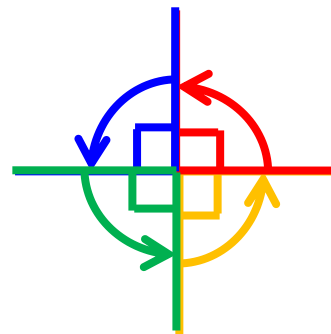
THREE right angles measure exactly  $270^\circ$

This is called three quarters of a turn

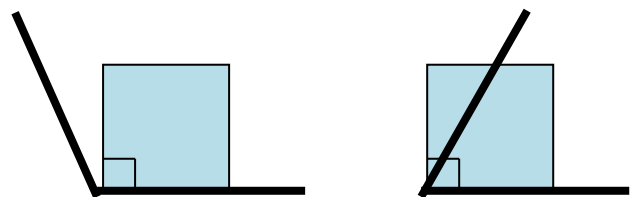


FOUR right angles measure exactly  $360^\circ$

This is called a full or complete turn



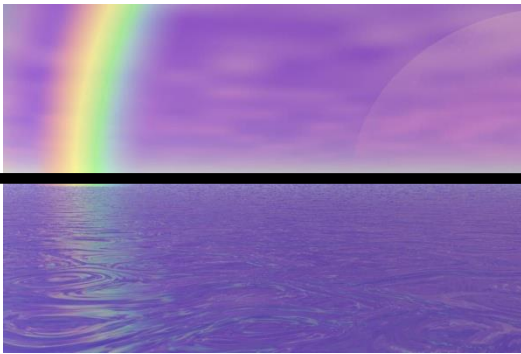
To check if an angle is bigger or smaller than a right angle, use a square corner



This angle is greater than a right angle

This angle is less than a right angle

### 3/28 Types of Lines



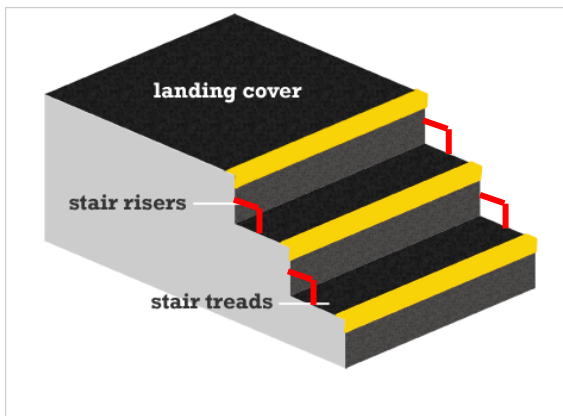
The Horizon is a horizontal line



This cliff face is a vertical line



The running track is parallel lines (never meet)



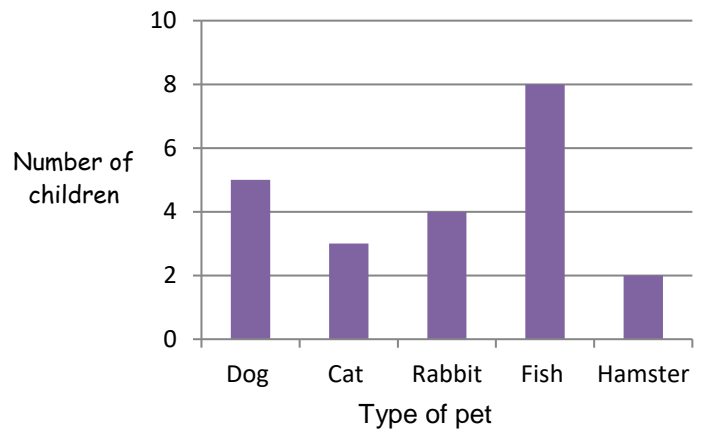
The rise & tread are perpendicular lines (meet at 90°)

### 3/29 Bar charts

Frequency table to show pets owned by Year 3

| Type of pet | Tally | Number of pets |
|-------------|-------|----------------|
| Dog         |       | 5              |
| Cat         |       | 3              |
| Rabbit      |       | 4              |
| Fish        |       | 8              |
| Hamster     |       | 2              |

A bar graph to show pets owned by Year 3



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 |                    |

### 3/30 Solve answers to questions

- **Bar chart in 3/29**

- (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 in 3/29**

- (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