Year 5 Maths Examples

ST. MARY'S RC. PRIMARY SCHOOL

1 Count in multiples

Now you must learn these multiples

Multiples of 6	Multiples of 7	Multiples of 9	Multiples of 25
6	7	9	25
12	14	18	50
18	21	27	75
24	28	36	100
30	35	45	125
36	42	54	150
42	49	63	175
48	56	72	200
54	63	81	225
60	70	90	250

2 Find 1000 more or less

thousands	hundreds	tens	ones
4	5	6	7

To increase or decrease by 1000 this is the digit that changes.

4567 has increased by 1000 to 5567

thousands	hundreds	tens	ones
5	5	6	7

4567 has decreased by 1000 to 3567

thousands	hundreds	tens	ones
3	5	6	7

2 Round to nearest 10, 100, 1000,

Example 1- Round 4279 to the nearest 1000

- Step 1 – Find the 'round-off digit' - 4
- Step 2 – Look one digit to the right of 4 - 2

5 or more? NO – leave 'round off digit' unchanged
- Replace following digits with zeros

ANSWER – 4000

Example 2- Round 4279 to the nearest 10

- Step 1 – Find the 'round-off digit' - 7
- Step 2 – Look one digit to the right of 7 - 9

5 or more? YES – Add one to the 'round off digit'
- Replace following digits with zeros

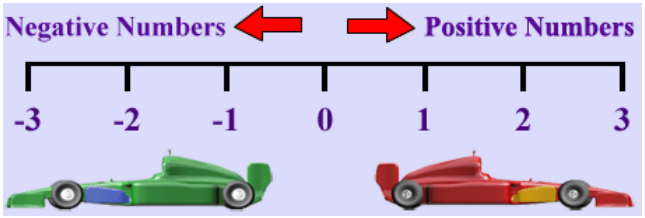
ANSWER – 4280

3 Negative numbers

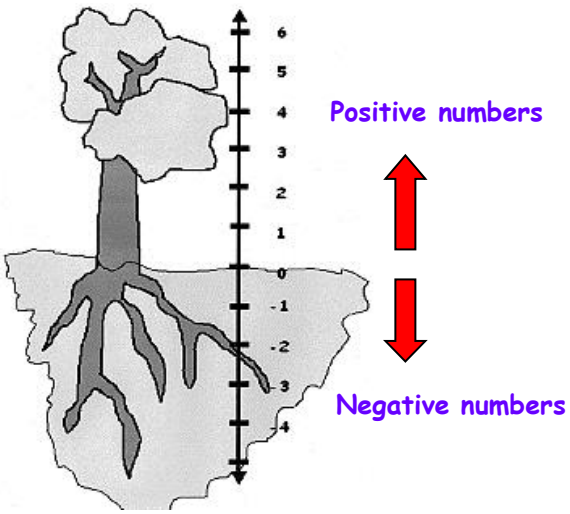
Negative numbers are numbers **BELOW ZERO**

Think of a number line

- **Horizontal number line**



- **Vertical number line**



4 Place value

thousands	hundreds	tens	oes
3	7	4	8

3000 700 40 8

5 Roman Numerals to 100

The numbers 1-100 are constructed from these:

I = 1
V = 5
X = 10
L = 50
C = 100

I	1	XXVI	26	LI	51	LXXVI	76
II	2	XXVII	27	LII	52	LXXVII	77
III	3	XXVIII	28	LIII	53	LXXVIII	78
IV	4	XXIX	29	LIV	54	LXXIX	79
V	5	XXX	30	LV	55	LXXX	80
VI	6	XXXI	31	LVI	56	LXXXI	81
VII	7	XXXII	32	LVII	57	LXXXII	82
VIII	8	XXXIII	33	LVIII	58	LXXXIII	83
IX	9	XXXIV	34	LIX	59	LXXXIV	84
X	10	XXXV	35	LX	60	LXXXV	85
XI	11	XXXVI	36	LXI	61	LXXXVI	86
XII	12	XXXVII	37	LXII	62	LXXXVII	87
XIII	13	XXXVIII	38	LXIII	63	LXXXVIII	88
XIV	14	XXXIX	39	LXIV	64	LXXXIX	89
XV	15	XL	40	LXV	65	XC	90
XVI	16	XLI	41	LXVI	66	XCI	91
XVII	17	XLII	42	LXVII	67	XCII	92
XVIII	18	XLIII	43	LXVIII	68	XCIII	93
XIX	19	XLIV	44	LXIX	69	XCIV	94
XX	20	XLV	45	LXX	70	XCV	95
XXI	21	XLVI	46	LXXI	71	XCVI	96
XXII	22	XLVII	47	LXXII	72	XCVII	97
XXIII	23	XLVIII	48	LXXIII	73	XCVIII	98
XXIV	24	XLIX	49	LXXIV	74	XCIX	99
XXV	25	L	50	LXXV	75	C	100

6 Add & subtract

- **Line up digits from right to left**

Example 1: Add 4735 and 386

```
4 7 3 5          4 7 3 5
  3 8 6 +        ¹3¹8¹6 +
5 1 2 1          5 1 2 1
1 1 1
```

Example 2: Subtract 637 from 2476

```
2¹4 ⁶7 ¹6        2 ¹4  7 ¹6
  6 3 7 -        ¹ 6 ³1 7 -
1 8 3 9          1 8 3 9
```

7 Estimate a calculation

- Round off each number so that the calculation is easy to do

Example 1: 644 x 11
To make it easy use:
600x11=6600 or 600x10 =6000

Example 2: 503.926 + 709.328
To make it easy use:
500 + 700 = 1200

Example 3: Half of 51.4328963
To make it easy use:
Half of 50 = 25

Example 3: 806 - 209
To make it easy use:
800 – 200 = 600

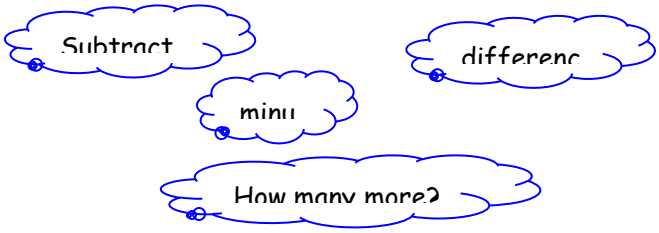
8 Addition & subtraction problems

(Based upon 4/6)

Words associated with addition:



Words associated with subtraction:



9 Multiplication tables

Times Table - 12x12

	1	2	3	4	5	6	7	8	9	10	11	12
1	**1**	2	3	4	5	6	7	8	9	10	11	12
2	2	**4**	6	8	10	12	14	16	18	20	22	24
3	3	6	**9**	12	15	18	21	24	27	30	33	36
4	4	8	12	**16**	20	24	28	32	36	40	44	48
5	5	10	15	20	**25**	30	35	40	45	50	55	60
6	6	12	18	24	30	**36**	42	48	54	60	66	72
7	7	14	21	28	35	42	**49**	56	63	70	77	84
8	8	16	24	32	40	48	56	**64**	72	80	88	96
9	9	18	27	36	45	54	63	72	**81**	90	99	108
10	10	20	30	40	50	60	70	80	90	**100**	110	120
11	11	22	33	44	55	66	77	88	99	110	**121**	132
12	12	24	36	48	60	72	84	96	108	120	132	**144**

Remember:

7 x 8 = 56 8 x 7 = 56 56 ÷ 7 = 8 56 ÷ 8 = 7

10 Factor pairs

The number 12 can be made from these factor pairs

1 x 12
2 x 6
3 x 4
4 x 3
6 x 2
12 x 1

From these factor pairs we can see that the factors of 12 are: 1, 2, 3, 4, 6, 12

11 Multiply by a single digit number

Example: 342 x 7

3 4 2 7 x 2 3 9 4 2 1	3 4 2 2 1 7 x 2 3 9 4	300 x 7 = 2100 40 x 7 = 280 2 x 7 = 14 342 x 7 = 2394

12 Connections between 2 sums

- Look for connections between the 2 sums

Example: We know 342 x 7 = 2394 (See above)

x2 x2

So we also know 342 x 14 = 4788

Example: We know 342 x 7 = 2394 (See above)

x2 x2

So we also know 684 x 7 = 4788

Example: We know 342 x 7 = 2394 (See above)

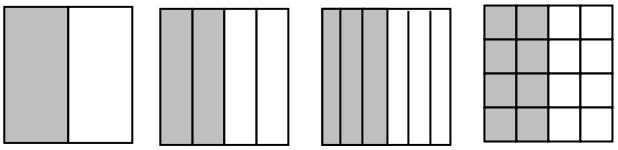
+1

So we also know 342 x 8 = 2394 + (342 x 1)
= 2736

13 Common equivalent fractions

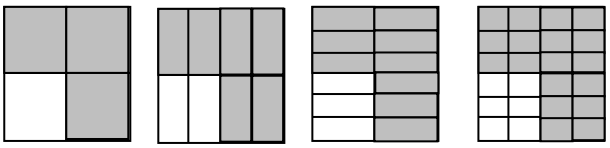
- The same fraction can be expressed in different ways

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



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

ALL THESE ARE $\frac{3}{4}$



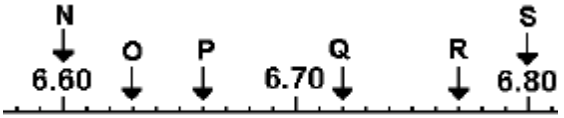
$\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{18}{24}$

14 Hundredths

tens	ones	•	tenths	hundredths
8	2	•	6	4

- This represents 4 hundredths = $\frac{4}{100}$
- To find a hundredth of an object or quantity you divide by 100

14 Counting in hundredths (continued)



O = 6.63
P = 6.66
Q = 6.72
R = 6.77

15 Add & subtract fractions

- To add and subtract fractions

When the denominators are the same

$\frac{5}{8} + \frac{3}{8} = \frac{8}{8} = 1$

Do not add the denominators

$\frac{5}{8} - \frac{1}{8} = \frac{4}{8}$

Do not subtract the denominators

16 Decimal equivalents

Ones	•	tenth
0	•	6

$0.6 \Leftrightarrow \frac{6}{10}$

Ones	•	tenths	hundredths
0	•	0	3

$0.03 \Leftrightarrow \frac{3}{100}$

Ones	•	tenths	hundredths
0	•	6	3

$0.63 \Leftrightarrow \frac{63}{100}$

16 Decimal equivalents

Others to learn are:

$\frac{1}{4} = 0.25$ $\frac{1}{2} = 0.5$ $\frac{3}{4} = 0.75$

17 Effect of dividing by 10 and 100

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

e.g. 35 ÷ 10 = 3.5

Tens	Ones	•	tenths
3	5	•	
	3	•	5

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

e.g. 35 ÷ 100 = 0.35

(we add a zero to show there are no whole numbers)

Tens	Ones	•	tenths	hundredths
3	5	•		
	0	•	3	5

18 Round decimals to nearest whole

The Rules:

- If the digit behind the decimal point is **LESS THAN 5**, the number is rounded **DOWN** to the next whole number

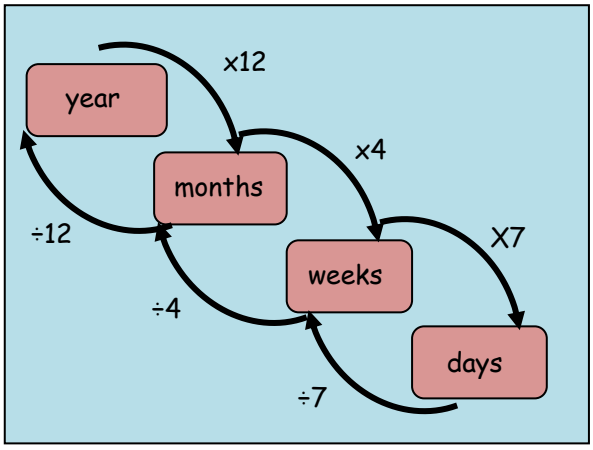
Example: 6.**4** becomes rounded to 6

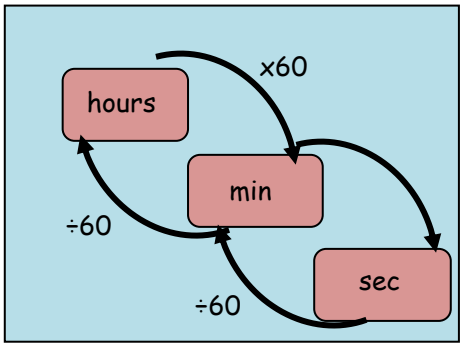
- If the digit behind the decimal point is **5 OR MORE**, the number is rounded **UP** to the next whole number

Example: 6.**5** becomes rounded to 7
6.**8** becomes rounded to 7

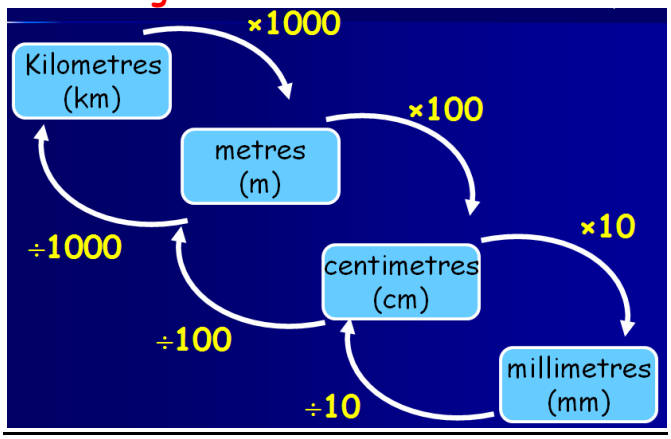
19 Convert between units of measure

- **Time**

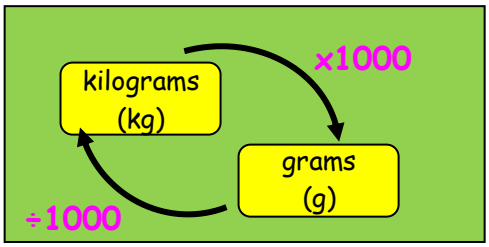




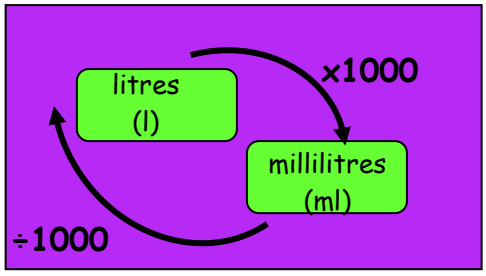
- **Length**



- **Mass or weight**



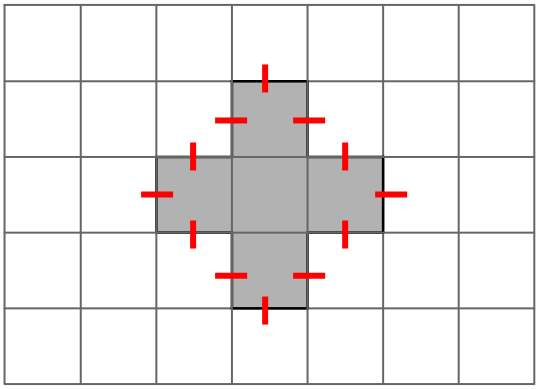
- **Capacity or volume**



20 Perimeter & area by counting

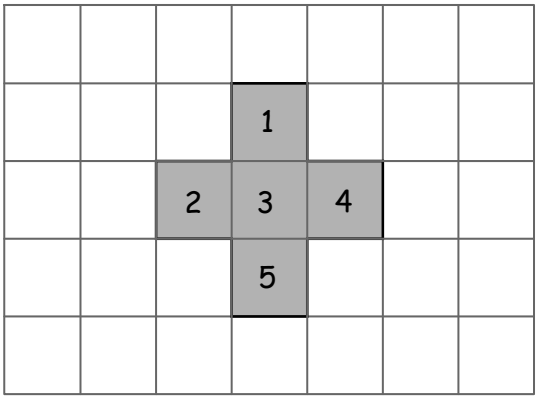
- **Perimeter** is round the **OUTSIDE**

Perimeter of this shape = 12cm



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

Area of this shape = 5cm^2

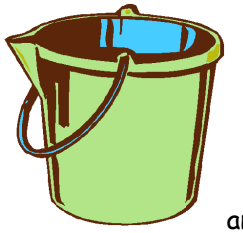


21 Estimate measures

- **Capacity**


a 5ml spoon


a 330ml can of drink


an average bucket holds 10 litres

21 Estimate measures - continued

- **Mass**



this apple weighs 125g



this bag of sugar weighs 1kg



this man weighs 70kg

- **Length**



this pencil is 17cm long



length of classroom is 10m



distance to Exeter is 64miles

22. 12- and 24-hour clock



MORNING in 24-Hour Clock											
0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
12:00am (midnight)	1:00am	2:00am	3:00am	4:00am	5:00am	6:00am	7:00am	8:00am	9:00am	10:00am	11:00am
MORNING in 12-Hour Clock											

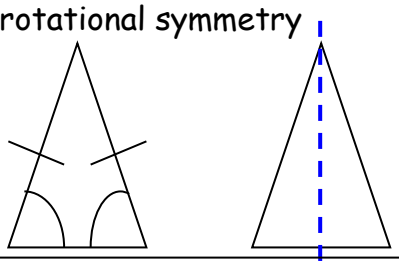
AFTERNOON in 24-Hour Clock											
1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
12:00pm (midday)	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm	7:00pm	8:00pm	9:00pm	10:00pm	11:00pm
AFTERNOON in 12-Hour Clock											

23 – Properties of quadrilaterals & triangles

TRIANGLES – angles add up to 180^0

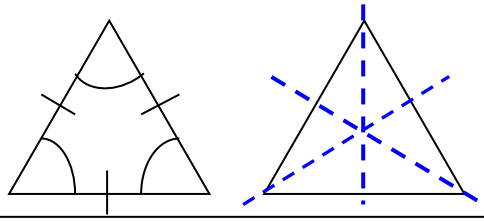
Isosceles triangle

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



Equilateral triangle

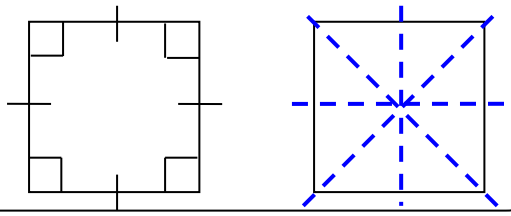
- 3 equal sides
- 3 equal angles - 60^0
- 3 lines of symmetry
- Rotational symmetry order 3



QUADRILATERALS – all angles add up to 360^0

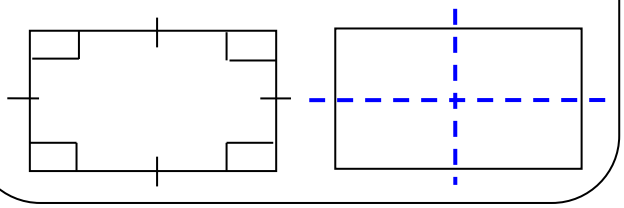
Square

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



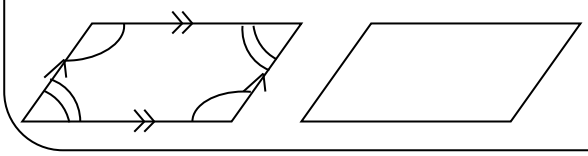
Rectangle

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



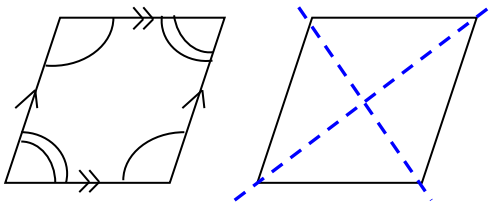
Parallelogram

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



Rhombus

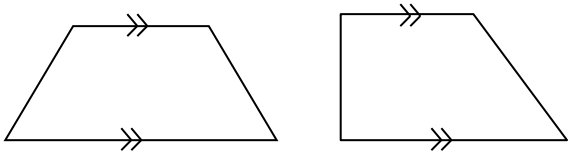
- Opposite sides parallel
- Opposite angles equal
- 2 lines of symmetry
- Rotational symmetry order 2



23 – Properties of quadrilaterals & Triangles (continued)

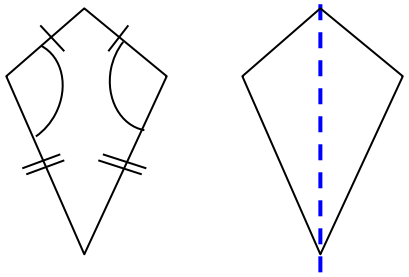
Trapezium

- ONE pair opposite sides parallel



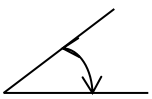
Kite

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



24 Types of angles

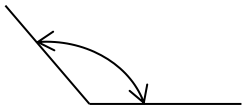
Acute (less than 90^0)



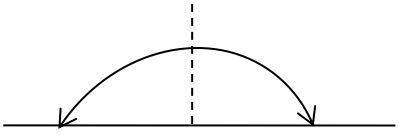
Right (Exactly 90^0)



Obtuse (Between 90^0 & 180^0)

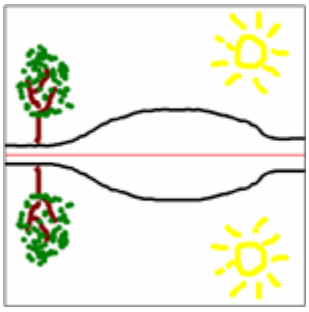


Straight line (180^0 or two right angles)

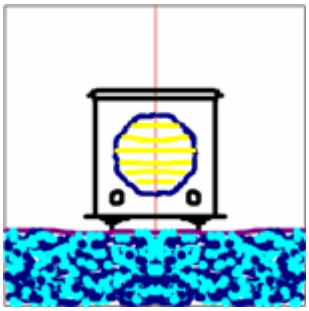


25 Identify lines of symmetry

- Horizontal line of symmetry



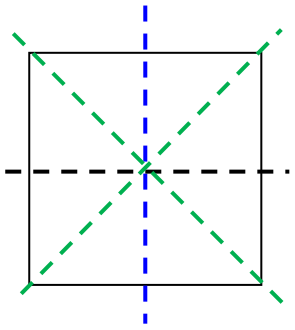
- Vertical line of symmetry



- Oblique line of symmetry

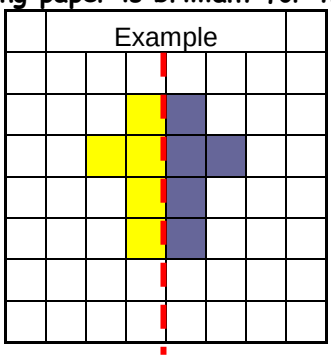


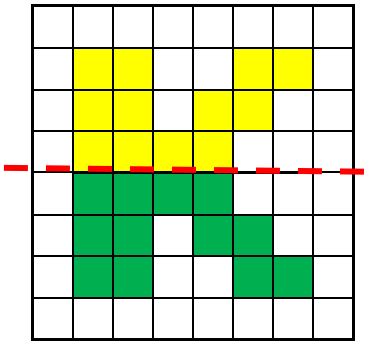
- Horizontal, Vertical & Oblique lines of symmetry

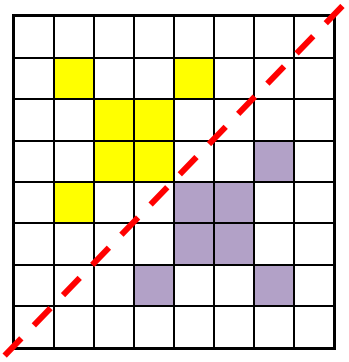


26 Complete a symmetrical figure

- Tracing paper is brilliant for this

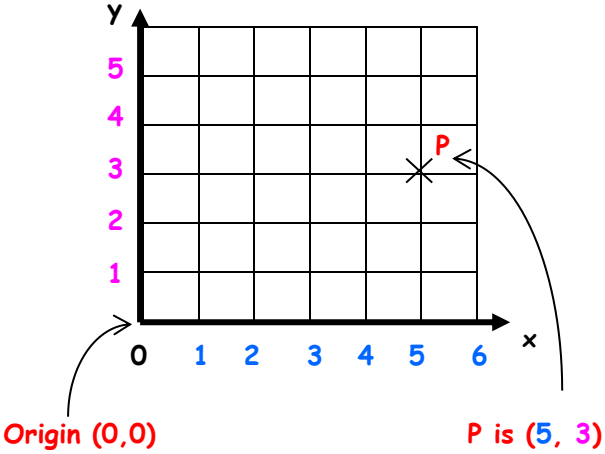




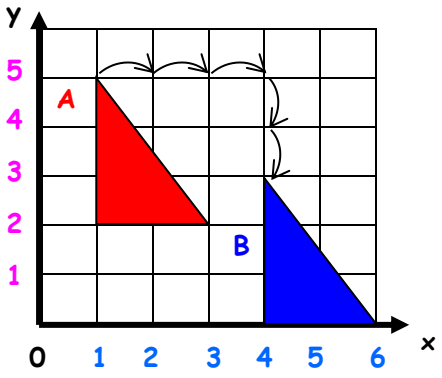


27 Describe position of points

- 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



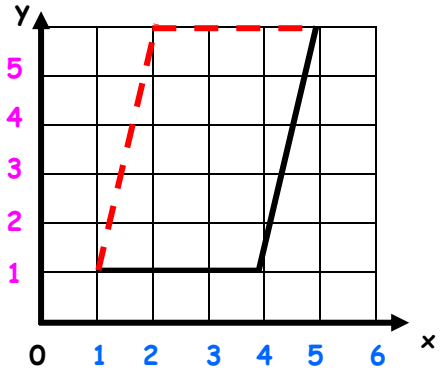
27 Describe movement of shapes



Shape A has been moved 3 squares right and 2 down.
This movement is called TRANSLATION

28 Complete a 2D shape

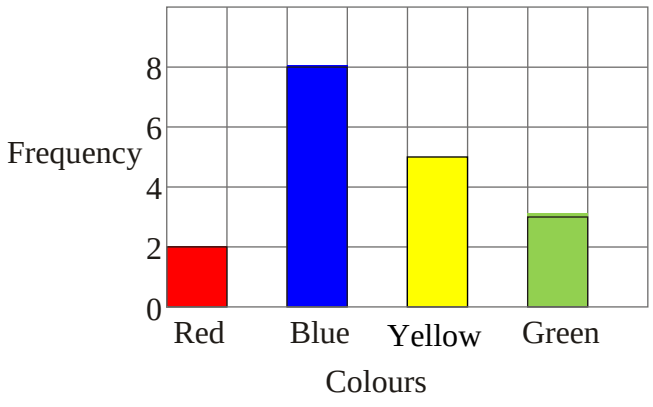
Example: Draw on lines to complete parallelogram



29 Present discrete & continuous data

Discrete data is counted
e.g. cars, students, animals

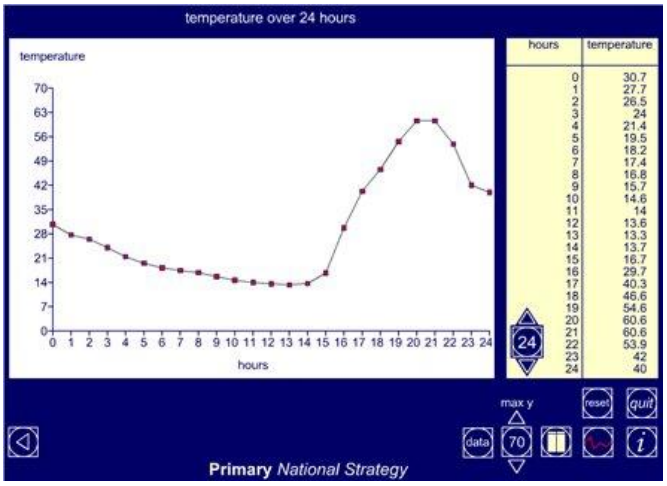
Graph to show favourite colours in Class 4



29 Present discrete & continuous data

Continuous data is measured
e.g. heights, times, temperature

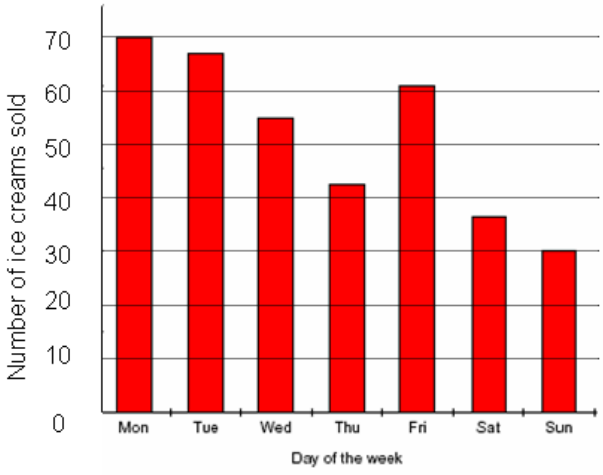
Graph to show a patient's temperature over 24h



30 Compare data in graphs

'Sum' or 'total' means 'add up'
'Difference' or 'how many more' means 'subtract'

Bar chart to show Number of Ice Creams sold in a week



(i) What is the total number of ice creams sold over the weekend?

Answer: 37 + 30 = 67

(ii) How many more were sold on Friday than Saturday?

Answer: 61 – 37 = 24

Pictogram to show the number of pizzas eaten by four friends in the past month:

Key:  = 4 pizzas

Alan 

Bob 

Chris 

Dave 

(i) What is the sum of the number of pizzas eaten in the month

Answer: 6 + 9 + 19 + 12 = 46

(ii) Find the difference in the number eaten by Chris and Bob

Answer: 19 – 9 = 10