

# Year 5 PROMPT sheet

## 5/1 Place value in numbers to 1million

The position of the digit gives its size

Millions	Hundred thousands	Ten thousands	thousands	hundreds	tens	units
1	2	3	4	5	6	7

### Example

The value of the digit '1' is 1 000 000

The value of the digit '2' is 200 000

The value of the digit '3' is 30 000

The value of the digit '4' is 4000

## 5/2 Round numbers to nearest 10, 100, 1000, 10000, 100000

**Example 1-** Round 342 679 to the nearest 10 000

- 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 - 340 000

**Example 2-** Round 453 679 to the nearest 100 000

- Step 1 - Find the 'round-off digit' - 4
- Step 2 - Look one digit to the right - 5

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

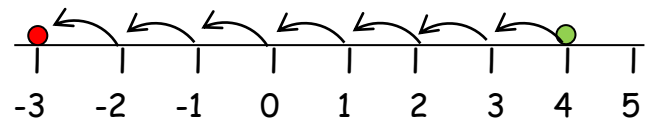
ANSWER - 500 000

## 5/3 Negative numbers

A number line is very useful for negative numbers.

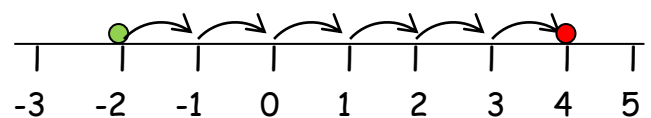
- The number line below shows:

$$4 - 7 = -3$$



- The number line below shows:

$$-2 + 6 = 4$$



## 5/4 Roman Numerals

The seven main symbols



I = 1

V = 5

X = 10

L = 50

C = 100

D = 500

M = 1000

Other useful ones include:

IV = 4

IX = 9

XL = 40

XC = 90

## 5/5 Mental methods for addition

- Start from LEFT to RIGHT

**Example 1** - think of:

45 + 32 as 45 + 30 + 2

- But in your head say:

45 75 77

**Example 2** - think of:

1236 + 415 as 1236 + 400 + 10 + 5

- But in your head say:

1236 1636 1646 1651

## 5/6 Mental methods for subtraction

Example 1 - think of:

$$56 - 32 \text{ as } 56 - 30 - 2$$

- But in your head say:

$$56 \quad 26 \quad 24$$

Example 2 - think of:

$$1236 - 415 \text{ as } 1236 - 400 - 10 - 5$$

- But in your head say:

$$1236 \quad 836 \quad 826 \quad 821$$

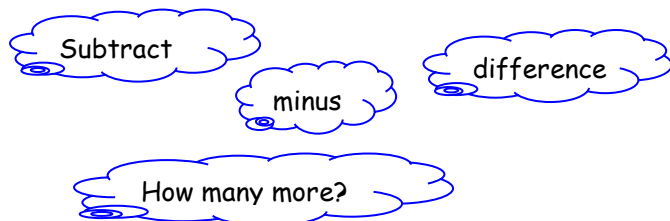
## 5/7 Multi-step problems

Based upon 5/6.

**Words associated with addition:**



**Words associated with subtraction:**



## 5/8 Multiples & factors

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

e.g. Factors of 12 are:

1	12
2	6
3	4

Factors of 18 are:

1	18
2	9
3	6

The common factors of 12 & 18 are: 1, 2, 3, 6,

The Highest Common Factor is: 6

- **MULTIPLES** are the times table answers

e.g. Multiples of 5 are:

5 10 15 **20** 25 .....

Multiples of 4 are:

4 8 12 16 **20** .....

The Lowest Common Multiple of 5 and 4 is: 20

## 5/9 Prime numbers

**Prime numbers have only TWO factors**

The factors of 12 are:

1, 2, 3, 4, 6, 12



12 is NOT prime

It is composite

Factors of 7 are:

1, 7



7 IS prime

## Prime numbers to 20

1	<b>2</b>	<b>3</b>	4	<b>5</b>
6	<b>7</b>	8	9	10
<b>11</b>	12	<b>13</b>	14	15
16	<b>17</b>	18	<b>19</b>	20

The number '1' is NOT prime

It has only ONE factor

## 5/10 Multiply & divide by 10, 100, 1000

- By moving the decimal point

To **multiply** by 10 move the dp ONE place RIGHT

e.g.  $13 \overset{\curvearrowright}{} \times 10 = 130$

$3.4 \overset{\curvearrowright}{} \times 10 = 34$

To **divide** by 10 move the dp ONE place LEFT

e.g.  $13 \overset{\curvearrowleft}{} \div 10 = 1.3$

$3.4 \overset{\curvearrowleft}{} \div 10 = 0.34$

- By moving the digits

To multiply by 10 move the digits ONE place LEFT



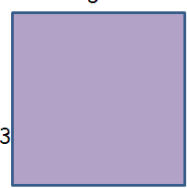
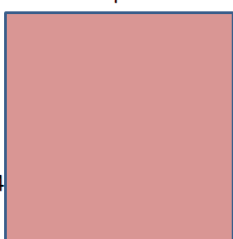
e.g.  $3.52 \times 10 = 35.2$

To multiply or divide by 100 move TWO places


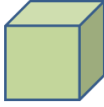
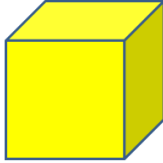
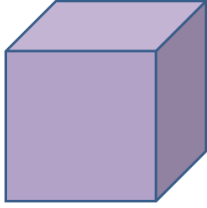
To multiply or divide by 1000 move THREE places

## 5/11 Square & Cube numbers

### Square numbers

1	2	3	4
			
1x1	2x2	3x3	4x4
$1^2$	$2^2$	$3^2$	$4^2$
1	4	9	16

### Cube numbers

			
1x1x1	2x2x2	3x3x3	4x4x4
$1^3$	$2^3$	$3^3$	$4^3$
1	8	27	64

## 5/12 Fractions

- To compare fractions  
- the denominators must be the same

$\frac{2}{3}$  and  $\frac{5}{6}$   $\longrightarrow$  😬

$\frac{4}{6}$  and  $\frac{5}{6}$   $\longrightarrow$  😄

SO  $\frac{5}{6}$  is bigger than  $\frac{2}{3}$

- To add and subtract fractions

**When the denominators are the same**

$\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Do not add the denominators

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

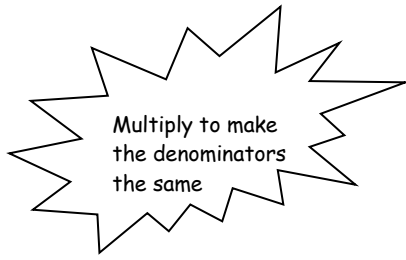
Do not subtract the denominators

### 5/13 To add subtract fractions (cont)

When the denominators are different

$$\frac{3}{8} + \frac{1}{4} \quad (\times 2)$$

$$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$$



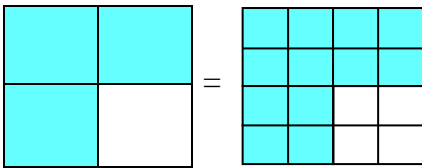
- A mixed number can be changed back into an improper fraction

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

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

### 5/14 Equivalent fractions

These fractions are the same but can be drawn and written in different ways



$$\frac{3}{4} = \frac{12}{16}$$

$$\frac{3^{(\times 4)}}{4^{(\times 4)}} = \frac{12}{16}$$

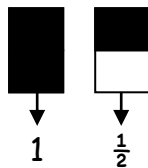
Fractions can also be divided to make the fraction look simpler - this is called **CANCELLING** or **LOWEST FORM**

$$\frac{12^{(\div 4)}}{16^{(\div 4)}} = \frac{3}{4}$$

### 5/15 Mixed & improper fractions

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

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



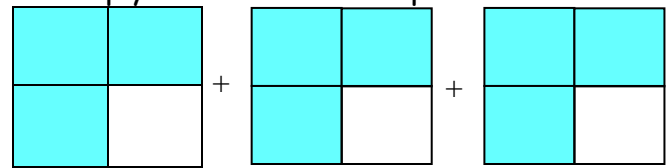
$$\frac{3}{2} = 1\frac{1}{2}$$

Improper fraction

Mixed number

### 5/16 Multiply fractions

Multiply is the same as repeated addition



$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

$$\frac{3}{4} \times 3 = \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$$

OR

$$\frac{3}{4} \times \frac{3}{1} = \frac{9}{4} = 2\frac{1}{4}$$

## 5/17 Round decimals

### Rules for rounding

1. Find the 'round off' digit
2. Move one digit to its right
3. Is this digit 5 or more  
Yes - add one to the round off digit  
No - don't change the round off digit

#### • To the nearest whole number

e.g. 1 - To round 5.62 to the nearest whole

'round off' digit      this digit is 5 or more

5.62 rounded to nearest whole = 6

e.g. 2 - To round 5.32 to the nearest whole

'round off' digit      this digit is NOT 5 or more

5.32 rounded to nearest whole = 5

#### • To one decimal place

e.g. 1 - To round 12.37 to 1 decimal place

'round off' digit      this digit is 5 or more

12.37 rounded to 1dp = 12.4

e.g. 2 - To round 12.32 to the nearest whole

'round off' digit      this digit is NOT 5 or more

12.37 rounded to 1dp = 12.3

## 5/18 Read & write decimals

The value of each digit is shown in the table

hundreds	tens	units	•	tenths	hundredths	thousandths
3	5	2	•	6	1	7
300	50	2		$\frac{6}{10}$	$\frac{1}{100}$	$\frac{7}{1000}$
352					$\frac{61}{100}$	$\frac{7}{1000}$
352					$\frac{617}{1000}$	

## 5/18 Order decimals

Example - To order 0.28, 0.3, 0.216

- Write them under each other
- Fill gaps with zeros
- Then order them

0.28 → 0.280

0.3 → 0.300

0.216 → 0.216

Order:      smallest                      largest  
                 0.216      0.28      0.3

## 5/19 Decimal & Percentage equivalents

### Learn

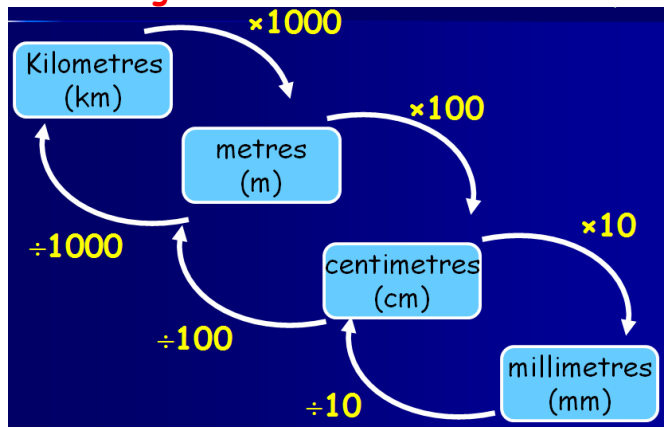
Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{1}{5}$	0.2	20%
$\frac{1}{10}$	0.1	10%
$\frac{1}{100}$	0.01	1%

Some fractions have to be changed to be 'out of 100'

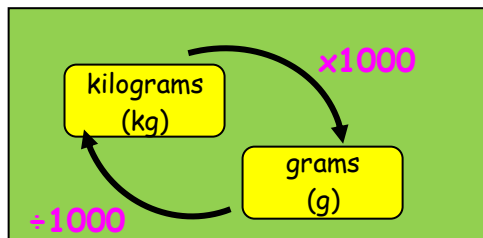
$$\frac{11(\times 4)}{25(\times 4)} = \frac{44}{100} = 0.44 = 44\%$$

## 5/20 Convert metric measure

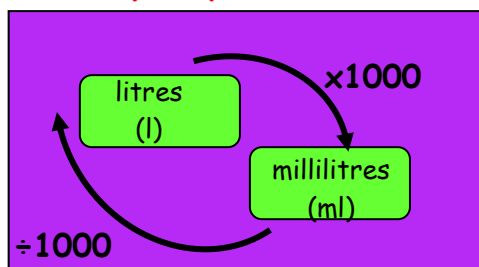
### • Length



### • Mass or weight

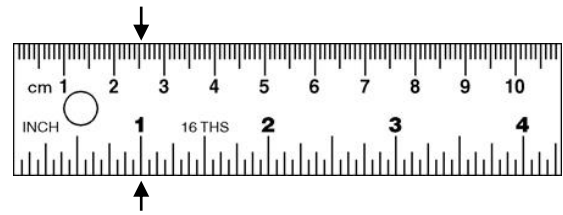


### • Capacity or volume



## 5/20 Imperial measure

- 1 inch is about 2.5cm



- 1km = 1.6 miles or 5miles = 8km

- 1kg is about 2.2pounds



- A litres of water's a pint and three quarters

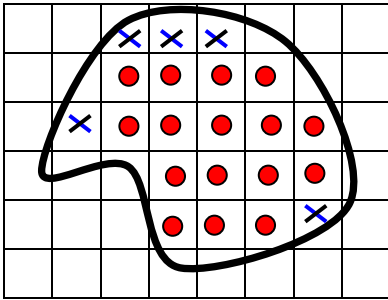


- A gallon is about 4.5 litres



## 5/21 Area & Perimeter

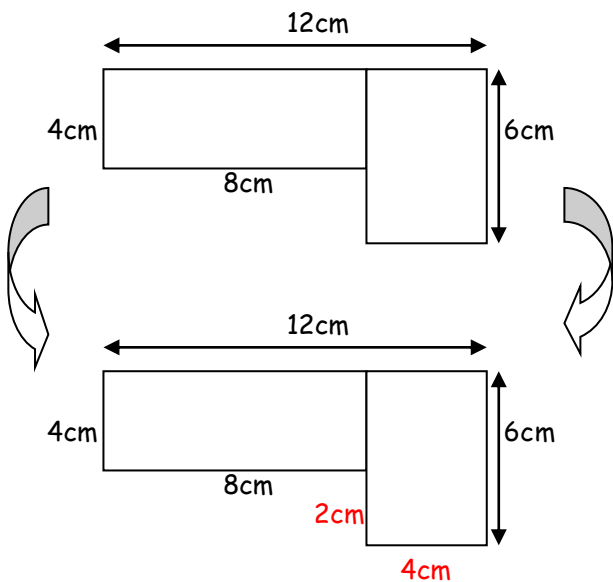
### • Estimate area



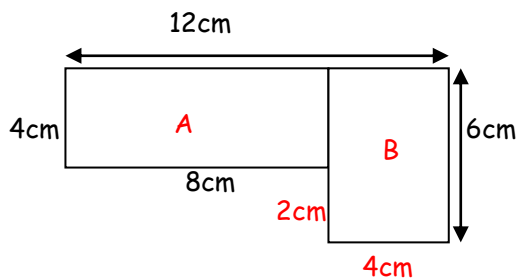
Number of whole squares (●) = 16  
 Number of  $\frac{1}{2}$  or more (X) = 5  
Estimated area = 21 squares

### • Shapes composed of rectangles

Put on all missing lengths first  
 For perimeter - ADD all lengths round outside  
 For area - split into rectangles & add them together



$$\text{Perimeter} = 12 + 6 + 4 + 2 + 8 + 4 = 36\text{cm}$$

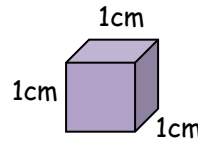


$$\begin{aligned} \text{Area of shape} &= \text{Area of A} + \text{Area of B} \\ &= (8 \times 4) + (4 \times 4) \\ &= 32 + 16 \\ &= 48\text{cm}^2 \end{aligned}$$

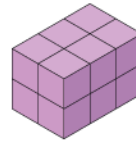
## 5/22 Volume

Volume is measured in cubes

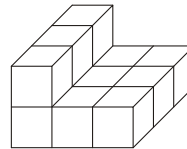
### The 1 cm cube



The volume of this cube is  $1\text{ cm}^3$   
 (1 cubic centimetre)  
**It holds 1ml of water**



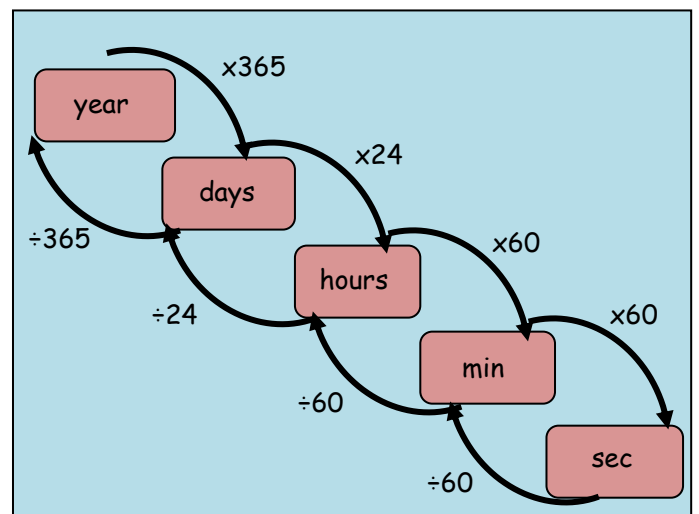
This cuboid contains 12 cubes  
 So the volume is  $12\text{ cm}^3$



This 3D shape contains 12 cubes  
 So the volume is  $12\text{ cm}^3$

## 5/23 Units of time

### • Time conversion



### • Time intervals

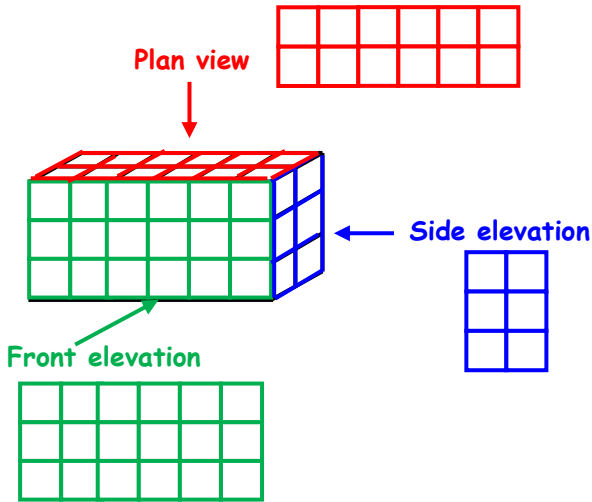
Always go to the next whole hour first

Example: 0830 to 1125

$$30\text{min} + 2\text{h } 25\text{min} = 2\text{h } 55\text{min}$$

## 5/24 2D representations of 3D shapes

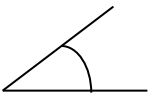
- There are 3 views:



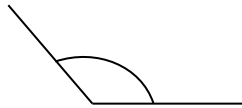
## 5/25 Angles

- Types of angles

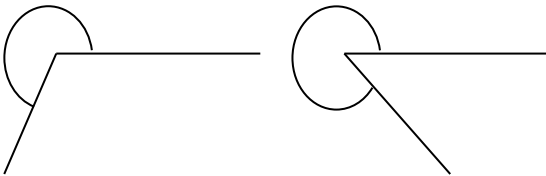
**Acute**  
(less than  $90^\circ$ )



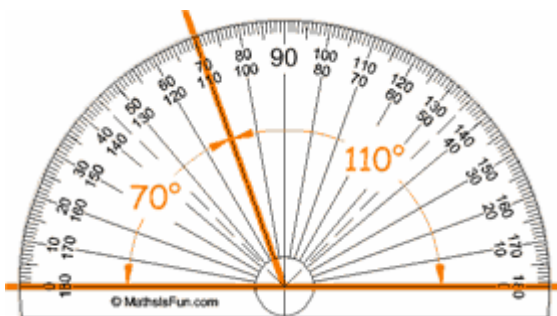
**Obtuse**  
(Between  $90^\circ$  &  $180^\circ$ )



**Reflex**  
(Between  $180^\circ$  &  $360^\circ$ )

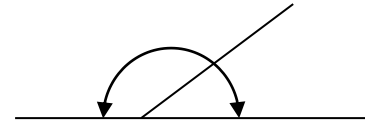


- Measure and draw angles

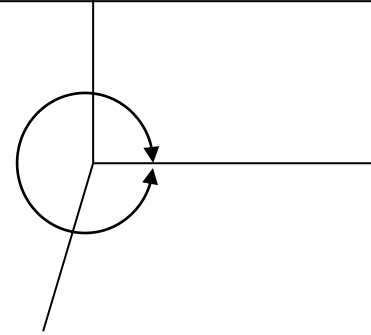


To be sure, count the number of degrees between the two arms of the angle

## 5/26 Angles



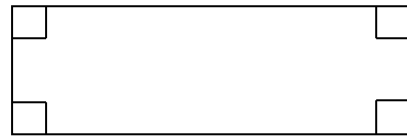
Angles on a straight line add up to  $180^\circ$   
or 2 right angles ( $2 \times 90^\circ$ )



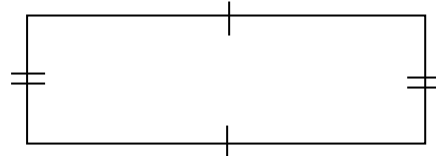
Angles about a point add up to  $360^\circ$   
or 4 right angles ( $4 \times 90^\circ$ )

## 5/27 Properties of the rectangle

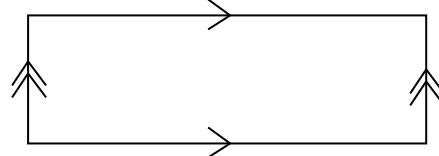
- A rectangle is a quadrilateral (4 sided shape)
- All angles are  $90^\circ$



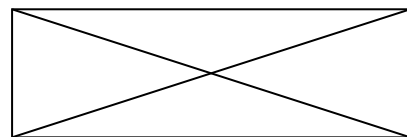
- Opposite sides are equal



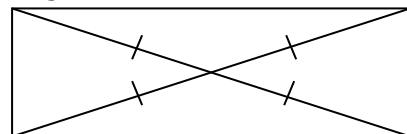
- Opposite sides are parallel



- Diagonals are equal



- Diagonals bisect each other (cut in half)

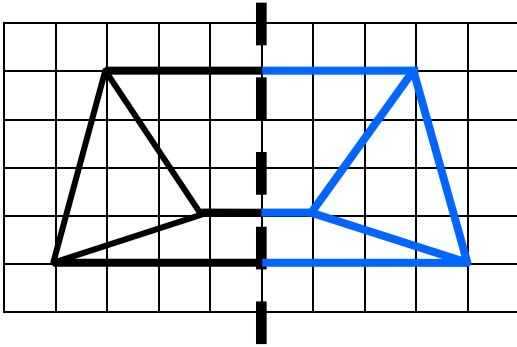


- A square is a special rectangle

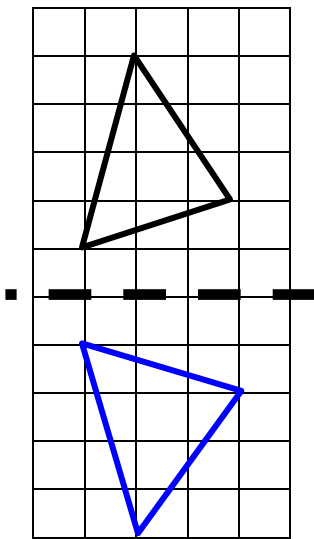


## 5/28 Reflection

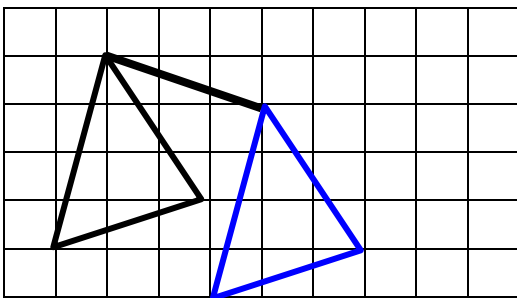
- Reflection in a vertical line



- Reflection in a horizontal line



## 5/28 Translation - 4 right & 1 down



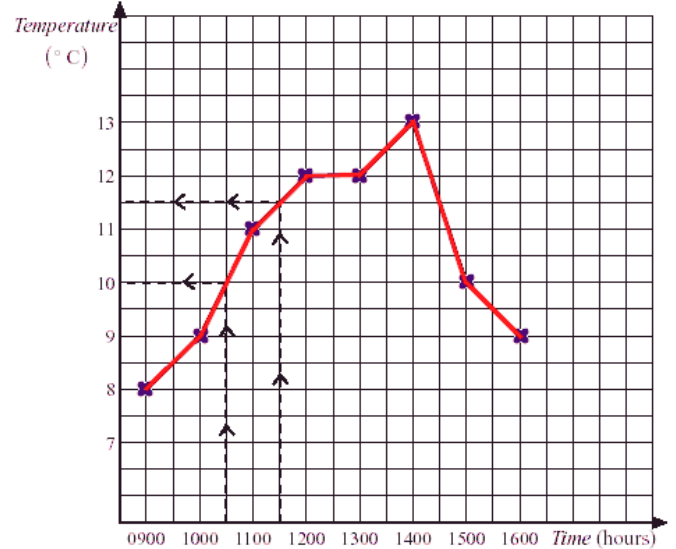
- In reflection and translation the shapes remain the same size and shape - CONGRUENT
- In reflection the shape is flipped over
- In translation the shape stays the same way up

## 5/29 Line graphs

- Find the difference

Example 1: What was the difference in temperature between 1030 and 1130?

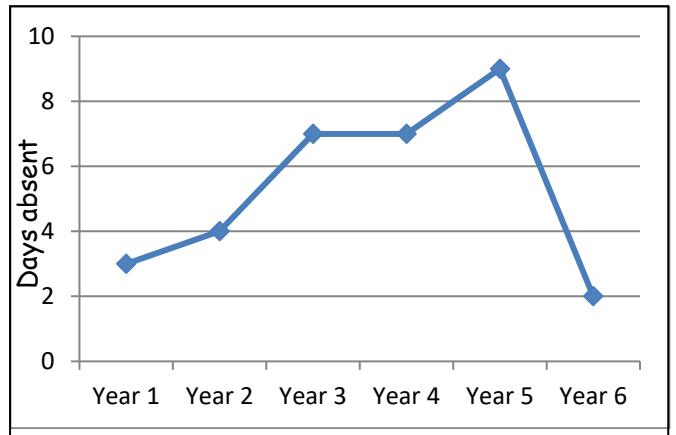
Answer:  $11.5^{\circ}\text{C} - 10^{\circ}\text{C} = 1.5^{\circ}\text{C}$



- Find the sum of the data

Example: What was the total number of days absent over the 6 years?

Answer:  $3 + 4 + 7 + 7 + 9 + 2 = 32$  days



## 5/30 Interpret information in tables

- **Distance table**

Example: Find the distance between **Leeds** and **York**

Answer: 40miles

Hull				
100	<b>Leeds</b>			
162	73	Manchester		
110	60	65	Sheffield	
63	40	118	95	<b>York</b>

- **Timetable**

Example: How long is the film?

Answer:  $1.10 - 2.35 = 1\text{h } 25\text{min} = 85\text{min}$

6.30am	Educational programme
7.00	Cartoons
7.25	News and weather
8.00	Wildlife programme
9.00	Children's programme
11.30	Music programme
12.30pm	Sports programme
1.00	News and weather
1.10 - 2.35pm	Film

- **Table of results of goals scored**

Example: Did boys or girls score the most goals?

Answer: Boys:  $6+3+3+6=18$

Girls:  $7+5=12$

Boys scored the most goals

	Game 1	Game 2	Game 3	Game 4	Game 5	Frequency
Peter	1	0	0	2	3	6
John	0	2	1	0	0	3
Ryan	1	0	1	1	0	3
Claire	2	0	2	1	2	7
Bill	3	1	1	0	1	6
Susan	0	1	3	1	0	5