

## Whole Numbers

## Homework 1

1) What does the 4 stand for in each of these numbers (units, tens, hundreds...)?

a) 4751    b) 8740    c) 9874    d) 1499    e) 43071

2) Write the following numbers using digits.

a) Nine hundred and ten    b) Twenty three thousand four hundred and fifty

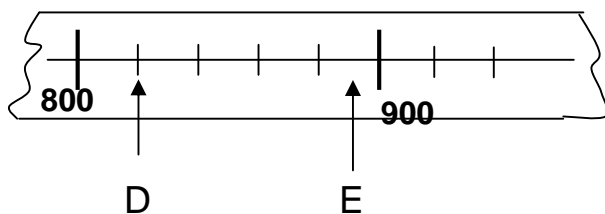
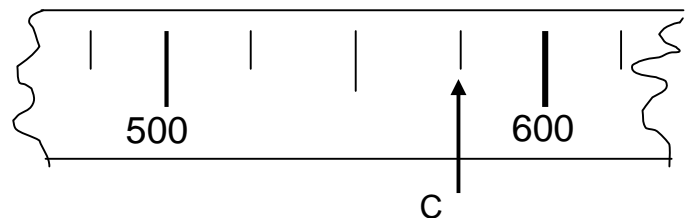
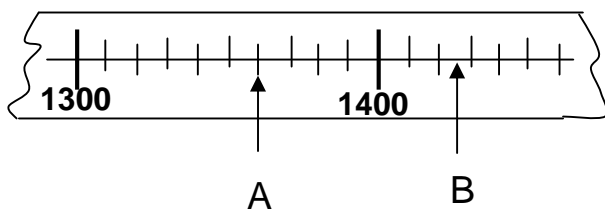
c) Six thousand and sixty three    d) Ninety thousand and five hundred

3) Write down the number that is

a) 10 after 760    b) 200 after 880    c) 70 before 980    d) 300 before 5390

e) 2000 after 7999    f) 1000 before 8700    g) 4500 after 3500

4. State the value shown by each arrow on the scales below:



## Whole Numbers

## Homework 2

Remember to set calculations out clearly!

1. Add

a)  $39 + 54$

b)  $62 + 49$

c)  $39 + 25$

e)  $75 + 145$

f)  $290 + 349$

g)  $3400 + 4300$

h)  $2600 + 2400$

j)  $7456 + 1959$

2. Subtract

a)  $67 - 54$

b)  $54 - 29$

c)  $77 - 58$

d)  $231 - 18$

e)  $70 - 35$

f)  $374 - 255$

f)  $1900 - 650$

g)  $7700 - 4960$

3. A train with 87 passengers stops at a station. At the station 55 people get on the train. How many are there now on the train.

4. The garage charged Mrs. Scott £145 for parts and £88 for labour. How much was Mrs. Scott's total garage bill?

5. Write down the number which lies half-way between

a) 140 and 150

b) 1200 and 1400

c) 5200 and 5600

d) 1800 and 2400

## Whole Numbers

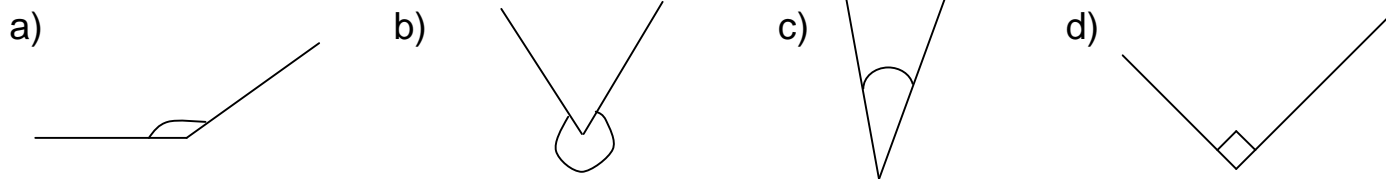
## Homework 3

- Calculate:  
a)  $671 \times 3$       b)  $8192 \div 4$       c)  $57 \times 1000$       d)  $9800 \div 10$
- A DVD cost £14. How much would it cost me to buy 8 of these DVD's?
- A group of 6 friends share the cost of a meal. If the meal cost a total of £918, how much should each person pay?
- Estimate* the total cost of buying 38 metres of material at a cost of £19 a metre.
- Calculate:  
a)  $14 \times 30$       b)  $231 \times 200$       c)  $8100 \div 30$       d)  $51500 \div 500$
- Remembering to use the order of operations, work out the value of:  
a)  $4 + 3 \times 2$       b)  $(9 + 1) \times 2$       c)  $8 + 6 \div 3$       d)  $9 \times 5 - 7$
- Round each number to the required accuracy:  
a) 67 (nearest 10)  
b) 234 (nearest 10)  
c) 875 (nearest 100)  
d) 16350 (nearest 100)  
e) 17890 (nearest 1000)

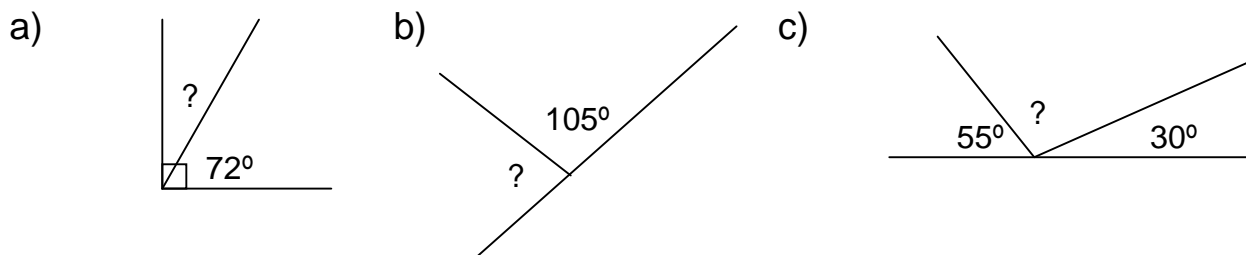
# Angles

# Homework 4

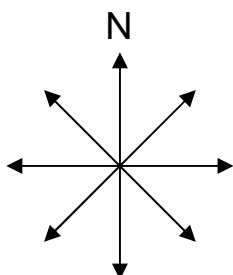
1. name the type of angle shown below (acute, obtuse, right, straight, reflex).



2. **Calculate** the size of the missing angles below. Remember to show your working.



3. Copy and complete the seven missing points on the compass shown.



4. Jane is facing North-West. If she makes a  $\frac{1}{2}$  turn clockwise, which direction is she now facing?

5. A boat sails in a south-easterly direction. On what bearing is it sailing?

- A  $000^\circ$       B  $135^\circ$       C  $225^\circ$       D  $315^\circ$

6. In your jotter, draw the diagram that matches these directions:

- 3 cm  $180^\circ$
- 4 cm  $045^\circ$
- 5 cm  $090^\circ$
- 4 cm  $315^\circ$

## Fractions

## Homework 5

1. There are 40 people on a bus.  $\frac{1}{2}$  of them are children. How many children are on the bus?
2. There are 60 apples in a box.  $\frac{1}{5}$  of the apples are green.
  - (a) How many apples are green?
  - (b) How many apples are **not** green?
3. Of the twenty seven babies born yesterday in a busy hospital, a third of the babies were boys. How many baby boys were born at the hospital yesterday?
4. There are 24 pets in the pet shop. A third of the pets are kittens. A quarter of the pets are puppies. A sixth of the pets are rabbits. An eighth of the pets are snakes. The rest are birds.

Find, the number of

- a) kittens
  - b) puppies
  - c) rabbits
  - d) snakes
  - e) birds
  - f) animals with four legs?
5. Without using a calculator, find the value of these (make sure to show ALL your working!):
    - a)  $\frac{2}{3}$  of 21
    - b)  $\frac{3}{5}$  of 40
    - c)  $\frac{2}{3}$  of 24
    - d)  $\frac{3}{4}$  of 28
    - e)  $\frac{4}{5}$  of 45

6. Simplify:

- a)  $\frac{10}{12}$
- b)  $\frac{8}{24}$
- c)  $\frac{25}{35}$
- d)  $\frac{35}{49}$

7. Copy and complete these equal fractions:

- a)  $\frac{2}{5} = \frac{\quad}{15}$
- b)  $\frac{3}{7} = \frac{\quad}{14}$
- c)  $\frac{6}{11} = \frac{\quad}{44}$
- d)  $\frac{4}{9} = \frac{\quad}{54}$

## Negative Numbers

## Homework 6

1. Write these temperatures in order of size, starting with the coldest:

a)  $-5^{\circ}$ ,  $3^{\circ}$ ,  $0^{\circ}$ ,  $-7^{\circ}$ ,  $10^{\circ}$

b)  $-12^{\circ}$ ,  $3^{\circ}$ ,  $-2^{\circ}$ ,  $11^{\circ}$ ,  $-4^{\circ}$ ,  $-1^{\circ}$ ,  $2^{\circ}$

2. In each case, state which temperature is the coldest.

a)  $-6^{\circ}$ ,  $2^{\circ}$

b)  $-13^{\circ}$ ,  $-5^{\circ}$

c)  $4^{\circ}$ ,  $-4^{\circ}$

3. Use a scale to help you to work out how many degrees the temperature has changed.

a)  $2^{\circ}$  to  $5^{\circ}$

b)  $-1^{\circ}$  to  $3^{\circ}$

c)  $-3^{\circ}$  to  $2^{\circ}$

d)  $-6^{\circ}$  to  $0^{\circ}$

e)  $-5^{\circ}$  to  $2^{\circ}$

f)  $-4^{\circ}$  to  $4^{\circ}$

g)  $-8^{\circ}$  to  $5^{\circ}$

h)  $-12^{\circ}$  to  $3^{\circ}$

i)  $-11^{\circ}$  to  $4^{\circ}$

j)  $-6^{\circ}$  to  $-2^{\circ}$

k)  $-4^{\circ}$  to  $-1^{\circ}$  l)  $-7^{\circ}$  to  $-4^{\circ}$

m)  $-12^{\circ}$  to  $-1^{\circ}$

n)  $-17^{\circ}$  to  $-6^{\circ}$

m)  $-7^{\circ}$  to  $12$

4. Use a scale to help you work out the temperature after these changes:

a) Was  $17^{\circ}$  Rose by  $8^{\circ}$

b) Was  $11^{\circ}$  Fell by  $7^{\circ}$

c) Was  $0^{\circ}$  Rose by  $15^{\circ}$

d) Was  $7^{\circ}$  Fell by  $7^{\circ}$

e) Was  $-1^{\circ}$  Rose by  $4^{\circ}$

f) Was  $5^{\circ}$  Fell by  $6^{\circ}$

g) Was  $-9^{\circ}$  Rose by  $10^{\circ}$

h) Was  $4^{\circ}$  Fell by  $9^{\circ}$

i) Was  $-10^{\circ}$  Rose by  $5^{\circ}$

j) Was  $-3^{\circ}$  Fell by  $4^{\circ}$

# Algebra

# Homework 7

1. Find the value of \* in each of these equations:

a)  $6 + * = 20$     b)  $3 + * = 3$     c)  $18 + * = 30$     d)  $* + 11 = 19$     e)  $12 - * = 3$

f)  $20 - * = 10$     g)  $9 - * = 0$     h)  $7 - * = 7$     i)  $* - 4 = 7$     j)  $* - 10 = 19$

k)  $* - 3 = 0$     l)  $* - 5 = 4$     m)  $3 \times * = 21$     n)  $6 \times * = 48$     o)  $* \times 5 = 35$

p)  $9 \times * = 0$     q)  $* \div 3 = 6$     r)  $* \div 8 = 5$     s)  $20 \div * = 10$     t)  $36 \div * = 4$

2. Gina weighs 38 kg and Tina weighs \* kg. Their combined weight is 70 kg.

a) Make up an **equation** using \*.

b) Solve it to find Tina's weight.

3. The combined number of apple and pear trees in an orchard is 42. There are 18 pear trees. Make up an equation and solve it to find how many apple trees there are.

4. When a box of chocolates is shared equally, Ned, Ted and Fred each get 13 chocolates. Make up an equation and solve it to find how many chocolates are in the box before sharing.

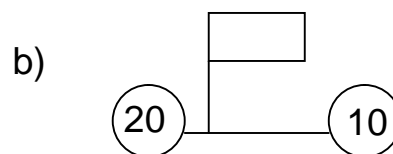
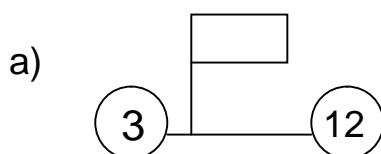
5. In each of the following, the symbol # stands for +, -, x or ÷. Decide which symbol is needed each time here :

a)  $6 \# 4 = 10$     b)  $12 \# 2 = 10$     c)  $2 \# 5 = 10$

d)  $30 \# 3 = 10$     e)  $5 \# 1 = 4$     f)  $5 \# 1 = 5$

g)  $5 \# 1 = 6$     h)  $8 \# 2 = 4$     i)  $30 \# 3 = 33$

6. In the flag diagram below there are **two** possible operations. State each possibility.



## Factors and Multiples

## Homework 8

- State the first 4 multiples of:  
a) 4                      b) 7                      c) 12                      d) 35
- State the multiples of 7 between 20 and 50.
- State the multiples of 5 between 312 and 358.
- State which of the numbers below can be divided exactly by 3 – show how you know:  
a) 36                      b) 82                      c) 205                      d) 381
- Write down **all** of the factors of these numbers:  
a) 8                      b) 20                      c) 36                      d) 100
- Which of these numbers are factors of 720? Can you explain how you know?  
a) 2                      b) 5                      c) 3                      d) 40                      e) 25                      f) 100
- Can you give a number which is **both** a multiple of 6 and a factor of 144?
- Give 4 numbers less than 20 which have **exactly** two factors.  
e.g. 7 can be divided only by 1 and 7.



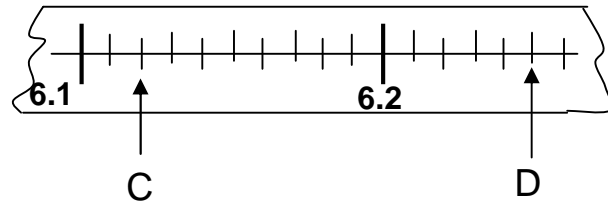
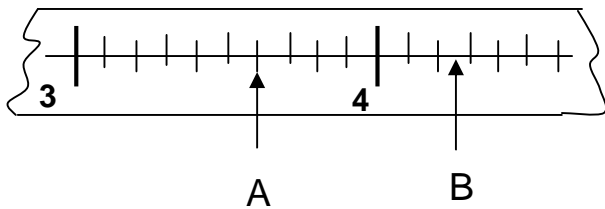
## Decimal Numbers 1

## Homework 9

1. State the value of the 5 in each of the following (i.e. tens, tenths, units etc.)

- a) 4.56                      b) 651.3                      c) 0.15                      d) 2.05                      e) 75.8

2. State the number each arrow is pointing to on the scales below:



3. Round each of the following numbers to the nearest whole number:

- a) 4.2                      b) 6.7                      c) 3.9                      d) 10.16                      e) 14.97

4. Write the number which lies half way between

- a) 0.1 and 0.3    b) 0.7 and 0.9    c) 2.6 and 2.8    d) 1.2 and 1.3

5. Evaluate the following (make sure to show all your working!):

a)  $3.7 + 4.2$                       b)  $5.7 + 3.1$                       c)  $3.9 + 7.1$                       d)  $0.4 + 0.6$

e)  $0.03 + 0.7$                       f)  $0.3 + 0.56$                       g)  $4.2 + 5.34$                       h)  $8.1 + 1.45$

i)  $2.8 + 5.15$                       j)  $6.8 - 6.5$                       k)  $8.6 - 1.2$                       l)  $9.8 - 0.7$

m)  $7.01 - 0.75$                       n)  $7.4 - 1.69$                       o)  $6.8 - 1.92$                       p)  $5 - 0.9$

6. Blythe bought a swimming costume for £25.50 and a swimming cap at £8.25. How much did she spend altogether?

7. The postman is delivering two parcels. One weighs 17.7 kg, the other weighs 32.8 kg. What is the total weight of the parcels?

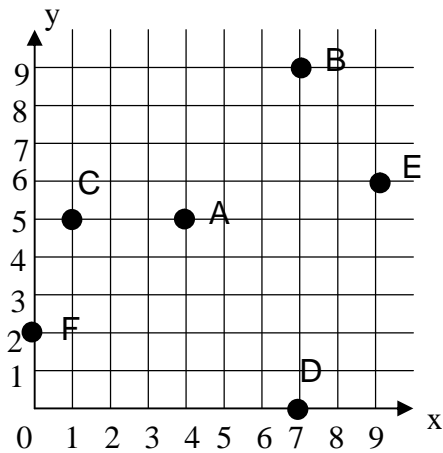
8. In a diving competition the UK judge awarded 2.7 points less than the French judge. The French judge gave the diver 9.3 points. What mark did the UK judge award?

## Mixed Homework

## Homework 10

### Coordinates and Number Work

1. a) State the coordinates of each point shown on the grid below:



b) State two points which have the same x coordinate.

c) State two points which have the same y coordinate.

2. Find the value of :

a)  $\frac{9}{10}$  of 120    b)  $\frac{3}{4}$  of 16    c)  $\frac{9}{20}$  of 60

- 3.

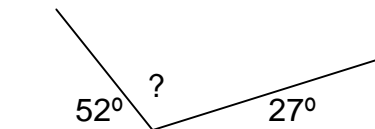
a)  $9 \cdot 7 + 1 \cdot 6$     b)  $0 \cdot 81 + 0 \cdot 3$     c)  $3 \cdot 5 - 0 \cdot 5$     d)  $9 \cdot 1 - 3 \cdot 75$

4. Simplify the following fractions:

a)  $\frac{9}{15}$     b)  $\frac{12}{36}$     c)  $\frac{15}{40}$     d)  $\frac{56}{64}$

5. State the multiples of 6 between 20 and 50.

6. Find the missing angle:



7. Find the value of \* in each of these equations:

a)  $11 + * = 24$     b)  $3 \times * = 27$     c)  $30 - * = 17$     d)  $* - 11 = 18$     e)  $15 \div * = 3$

## Decimal Numbers 2

## Homework 11

1. Copy and complete the bills below;

a)

	Cost
3 cakes at £1.10 each	
4 cups of tea at 80p each	
2 chocolate biscuits at 40p each	
Total Cost:	
Change from £20:	

b)

	Cost
4 computer games at £24.45 each	
2 DVD's at £6.99 each	
5 pens at 22p each	
Total Cost:	
Change from £120:	

2. Calculate:

a)  $4.7 \times 6$       b)  $80.7 \div 3$       c)  $56.12 \times 8$       d)  $48.84 \div 6$

3. Copy and complete these statements:

a)  $4.71 \times 100 = \dots\dots\dots$       b)  $813.4 \div 10 = \dots\dots\dots$   
c)  $6.07 \times \dots\dots\dots = 6070$       d)  $\dots\dots\dots \div 100 = 2.134$   
e)  $\dots\dots\dots \times 1000 = 51.34$       f)  $61900 \div \dots\dots\dots = 61.9$

4. Jean earns £7.52 an hour.

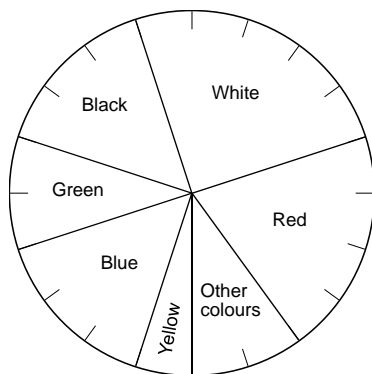
a) How much will she get paid if she works for 8 hours today?

b) If she also gets a bonus for good work worth £17.52, what does she earn in total?

## Statistics and Probability

## Homework 12

1. The results of a survey have been put into a pie chart.  
The survey was about the colours of cars travelling along a road.



What percentage of the cars was green?

2. A café owner noted how many sandwiches she sold each day, for 5 days.

	Mon	Tues	Wed	Thurs	Fri
Ham	15	10	12	14	9
Cheese	8	12	10	5	7
Egg	10	9	9	8	12
Tuna	12	14	10	9	9

- a) How many sandwiches were sold on Monday?  
b) How many **more** ham sandwiches than cheese sandwiches were sold?
3. There are two classes of P5 children in Bridge Street Primary school.

The table shows that there are 20 boys in P5A.

	Boys	Girls
P5A	20	
P5B		

Altogether there are 30 children in P5A. There are 5 fewer children in P5B.  
Altogether in P5 there are 32 boys. Copy and complete the table.

4. A bag of Starburst 20 sweets left in it. There are only three flavours left in it. There are 8 strawberry chews and 7 lime ones. The rest are orange. If I select a sweet at random, what is the chance that:  
a) it is strawberry      b) its is orange      c) it is blackcurrant?
5. Two coins are flipped.  
a) How many different possible outcomes are there – show all answers.  
b) What is the probability that the coins both land Heads up?

## Percentages

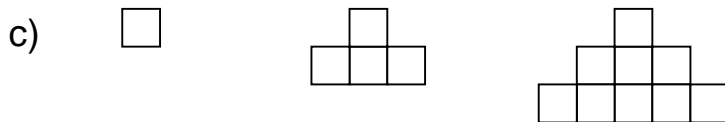
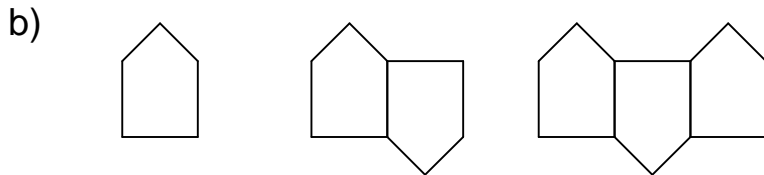
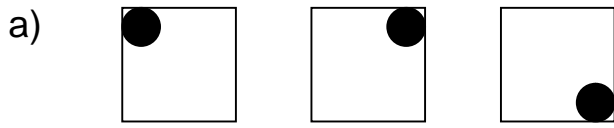
## Homework 13

- Write each of the following as a decimal (remember:  $32\% = 0.32$ )
  - 31%
  - 59%
  - 18%
  - 9%
  - 1%
  - 100%
- Write each of these as fractions – give your answer in its simplest form:
  - 50%
  - 20%
  - 45%
  - 24%
- Write each of the decimals below as:
  - a fraction
  - a percentage
  - 0.27
  - 0.56
  - 0.08
  - 0.6
- Calculate the following:
  - 50% of £26
  - 50% of 56 km
  - 50% of 124 mm
  - 25% of \$8
  - 25% of 48 ml
  - 25% of 800 m
  - 10% of 600 m
  - 10% of 200 ml
  - 75% of £24
- A coat cost £120. In a sale the price was reduced by 25%.
  - Calculate the discount on the price of the coat.
  - Calculate the sale price.

# Sequences

# Homework 14

1. Draw the next pattern in each of the sequences shown below:

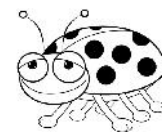


2. State the next three numbers in each sequence below. State the rule you used to find your answers.

e.g. 6, 9, 12, 15, ..... Next three are 18, 21, 24. Rule: Add 3

- a) 9, 16, 23, 30, .....
- b) 50, 46, 42, 38, .....
- c) 1, 2, 4, 8, .....
- d) 5 000 000, 500 000, 50 000, .....
- e) 2, 2, 4, 6, 10, 16, .....

3. A beetle has 6 legs as shown in the picture:



a) Copy and complete the table below:

Number of Beetles	1	2	3	4	5		10
Number of Legs	6						

b) Find a formula connecting the number of beetles to the number of legs.

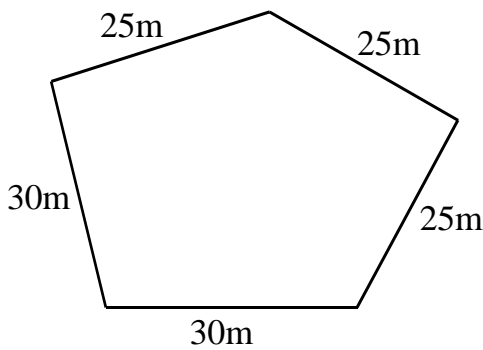
Number of Legs = .....

- c) If there are 30 beetles, how many legs would there be?
- d) If there are 90 legs, how many beetles would there be?

# Length, Area and Volume

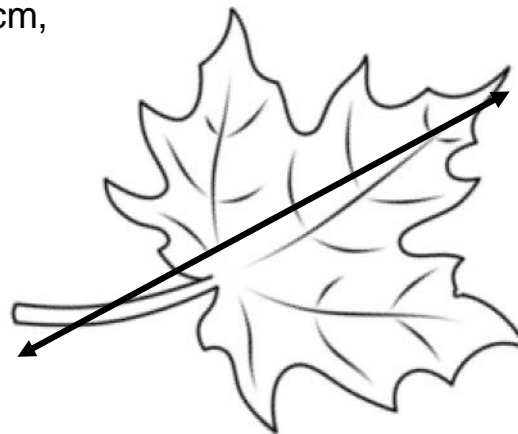
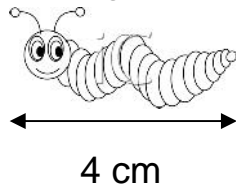
# Homework 15

1. This is a sketch map of the school playground.



What is the perimeter of the playground?

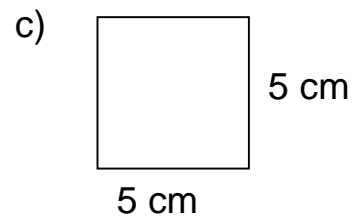
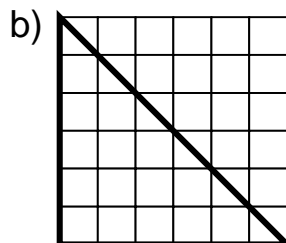
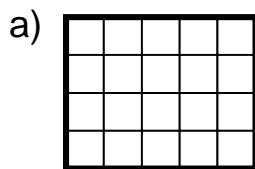
2. If the length of the caterpillar is 4 cm, estimate the length of the leaf .



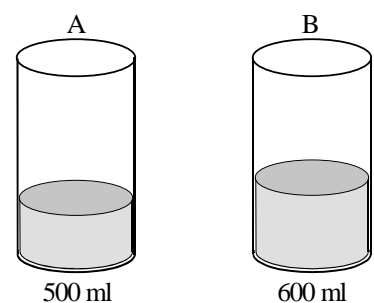
3. Copy and complete:

- a) 50 mm = ..... cm    b) 300 cm = ...m
- c) .....m = 5 km        d) 6.2 cm = ..... mm
- e)  $6 \frac{1}{2}$  m = .....cm    f) 2.005 km = .....m

4. Find the area of the shapes below:



5. The water in jar A is added to the water in jar B. Write the total volume in litres in decimal form.



## Time

## Homework 16

- Change these times into 24 hour clock times:
  - 7:45 pm
  - 3:20 am
  - 5:53 pm
  - 12:20 am
- Write these as ordinary clock times – remember to include am or pm.
  - 16:20
  - 23:40
  - 11:15
  - 00:35
- How long is it between these times?
  - 2:50pm and 4:00pm
  - 8:15 am and 12:45 pm
  - 13:20 and 17:55
  - 09:55 and 16:20
- Khalid takes 25 minutes to travel from his house to the train station.  
He wants to catch the 14:15 train.

What is the latest time that he can leave the house to catch this train?

- Here is a railway timetable.

	<b>Stirling</b>	<b>Falkirk</b>	<b>Edinburgh</b>
Train A	07:15	07:33	08:12
Train B	11:38	11:54	12:25
Train C	12:08	12:25	13:03
Train D	23:13	23:41	00:17

- How long does it take Train A to travel from Stirling to Edinburgh?
  - If I want to get to Edinburgh by 1pm, what is the latest train I can take from Stirling?
- How many minutes are there in:
    - 2 hours
    - 3  $\frac{1}{2}$  hours
    - 5  $\frac{1}{4}$  hours?
  - If the 7<sup>th</sup> March is a Friday, what day of the week will these dates be?
    - 14<sup>th</sup> March
    - 23<sup>rd</sup> march
    - 1<sup>st</sup> April



## 2D and 3D Shapes

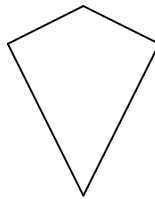
## Homework 17

1. Name in full the 2D shapes below:

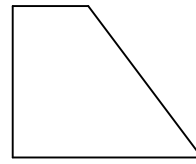
a)



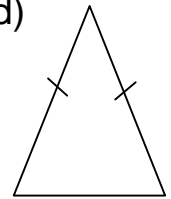
b)



c)

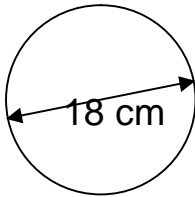


d)

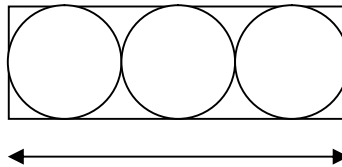


2. Find the radius of the circles below:

a)



b)

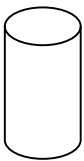


3. Show how this shape will tessellate (draw 6 tiles):

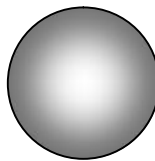


4. Name in full the 3D shapes below:

a)



b)



c)



5. State how many:

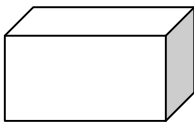
i) Faces

ii) Vertices

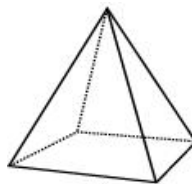
iii) Edges

each shape below has.

a)



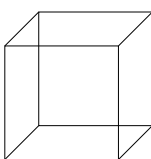
b)



6. Draw 3 different nets for a cube.

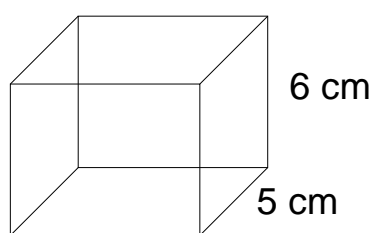
7. Calculate the total edge length for the shapes below:

a)



5 cm  
(cube)

b)



10 cm

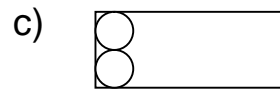
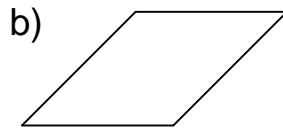
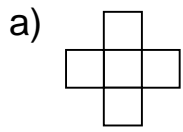
6 cm

5 cm

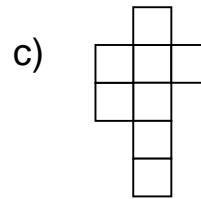
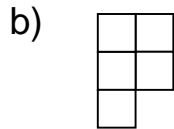
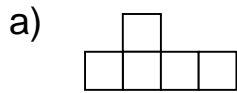
# Symmetry

# Homework 18

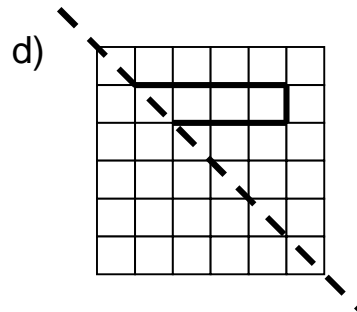
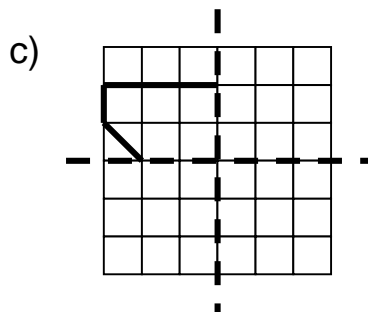
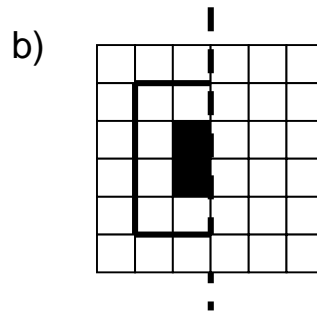
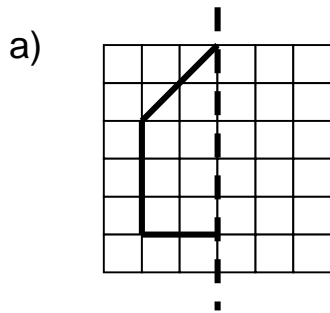
1. State the number of lines of symmetry in each of the pictures below:



2. Copy the diagrams below. Add **one** square to each diagram to make a shape which has line symmetry. Draw your line of symmetry on the diagram.



3. Copy each shape below and reflect it in the given mirror lines.



4. Describe 4 objects in real life that show line symmetry.