Cumbernauld Academy

Mathematics Department

1st/2nd Level

Block 3 - homework booklet

Name .....

Homework Sheets

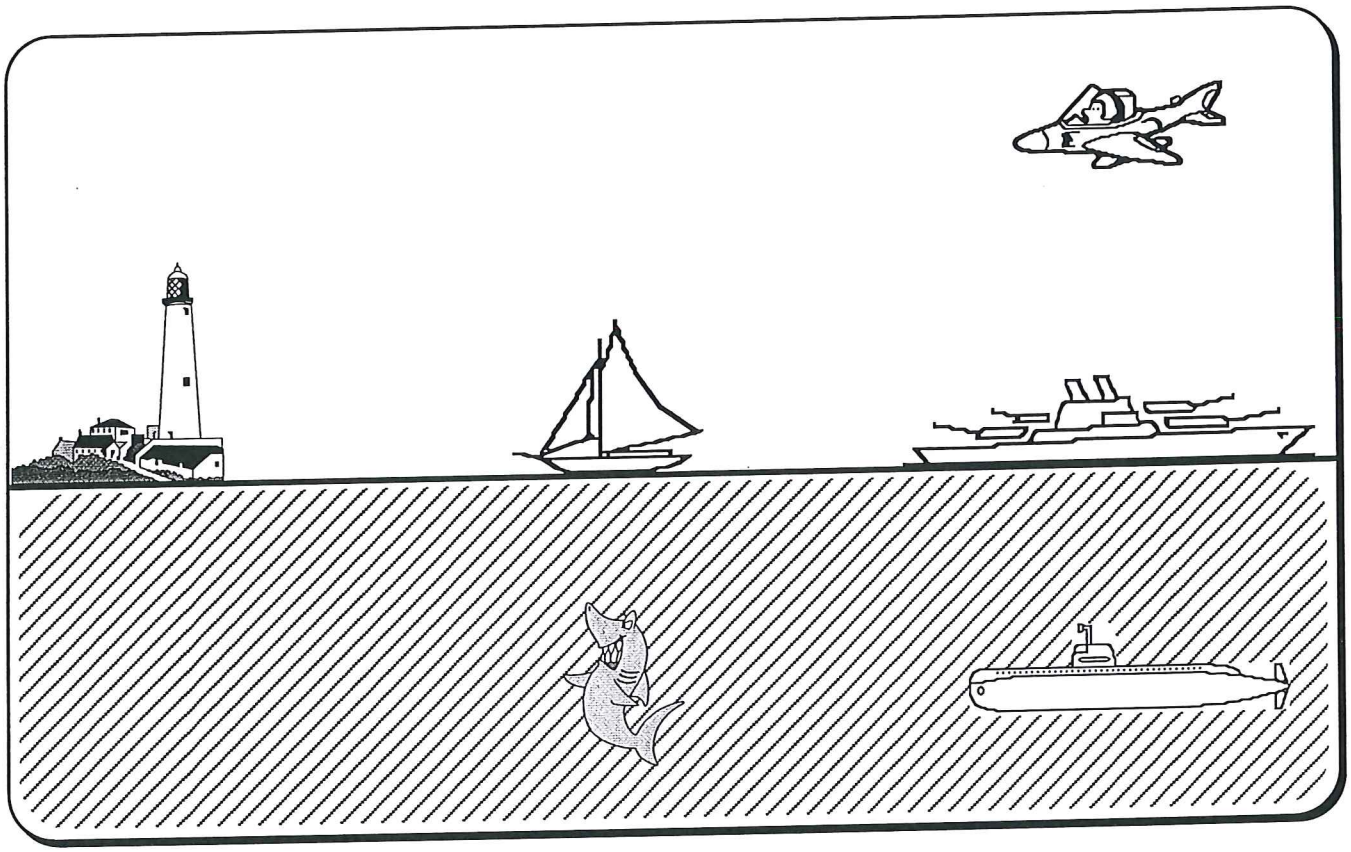
Position

No. 7a

name .....

date due back .....

signed ..... score .....



1. Fill in the blanks using :- **to the right of** **to the left of** **above** **below**

(a) The yacht is _____ the shark.

(b) The lighthouse is _____ the yacht.

(c) The aeroplane is _____ the ship.

(d) The submarine is _____ the ship.

(e) The ship is _____ the lighthouse.

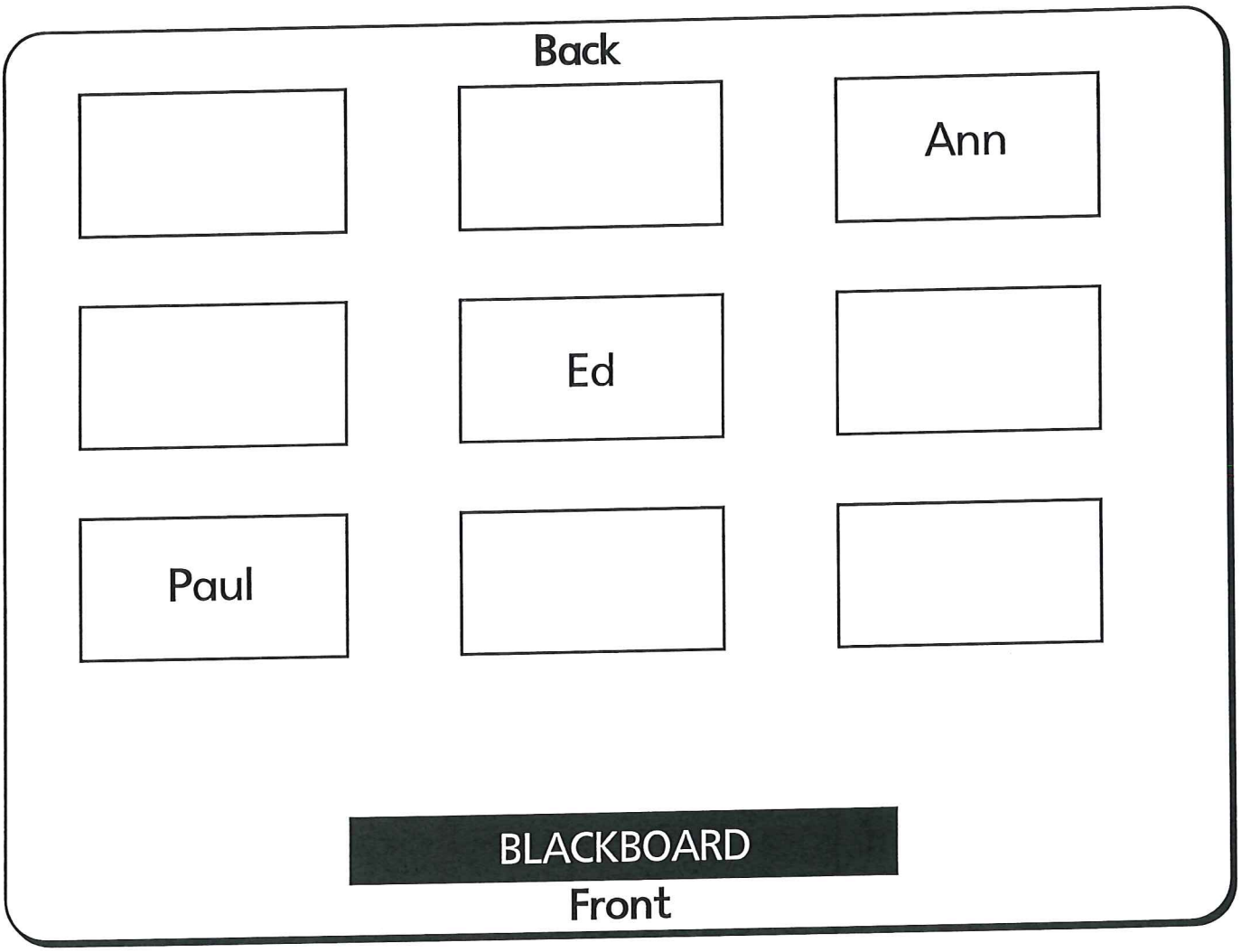
(f) The shark is _____ the yacht.

(g) The submarine is _____ the shark.

(h) The submarine is _____ the aeroplane.

(i) The yacht is _____ the ship.

2. A class seating plan is shown below.



Fill in the names of the class on to the plan using the following clues :–

(a) Mary sits <u>behind</u> Ed.

(b) Jon sits <u>to the left</u> of Ed.

(c) Ben sits <u>behind</u> Jon.

(d) Amy sits <u>to the right</u> of Ed.

(e) Asha sits <u>to the right</u> of Paul **AND** <u>in front</u> of Amy.

Dee sits in the last seat.
Describe where Dee sits.

(f) Answer : Dee sits

(Use **behind, in front of, to the left of** or **to the right of.**)

Break The Code

	A	B	C	D	E	F	G	H	I
6	N		B		E		J		P
5		C	R			F		S	
4		A		G	X	W	O		Q
3		S		I	H			U	
2			D				M	L	
1	T			K		V		Y	Z

Example

	A1	D3	G2	E6
spells	T	I	M	E

(a) Break the code :–

G2	B4	A1	E3	H5	/	D3	B3	/	F5	H3	A6
–	–	–	–	–	/	–	–	/	–	–	–

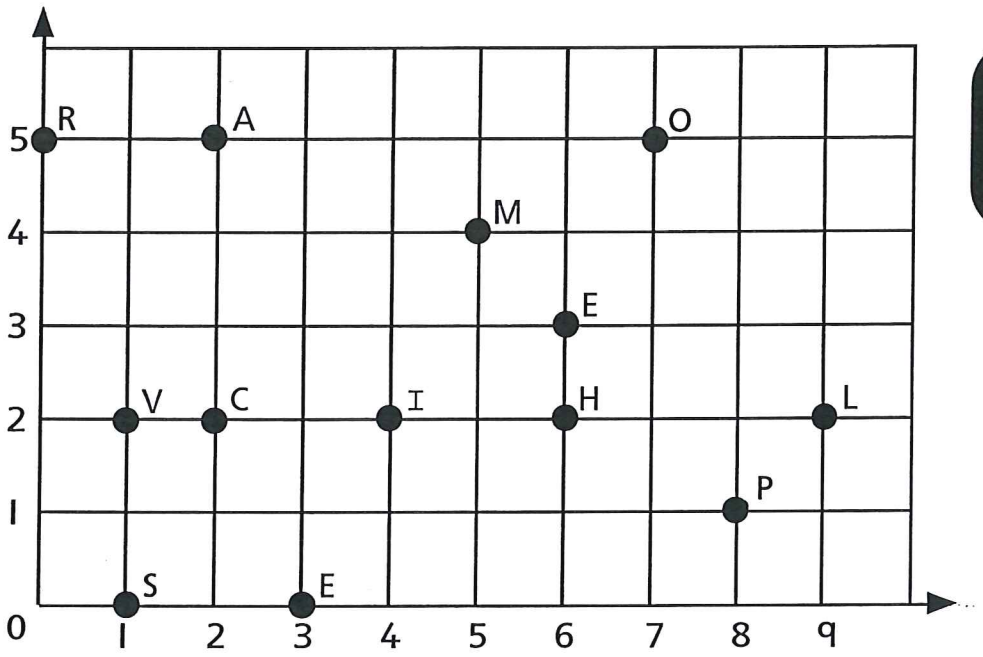
(b) Break the code :–

D3	/	B4	G2	/	B5	H2	E6	F1	E6	C5
–	/	–	–	/	–	–	–	–	–	–

(c) Write your own name below using the code.

Code																	
Your Name																	

Break The Code



Remember :
Along then up
e.g. (2, 5) is A
(8, 1) is P

(a) Break the code.

(4, 2)	/	(2, 5)	(5, 4)	/	(2, 2)	(9, 2)	(6, 3)	(1, 2)	(3, 0)	(0, 5)
—	/	—	—	/	—	—	—	—	—	—

(b) Write this message in co-ordinates code.

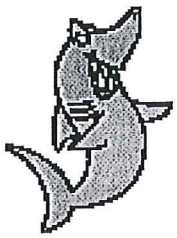
I	/	L	O	V	E	/	S	C	H	O	O	L
(,)	/	(,)	(,)	(,)	(,)	/						

(c) On the grid at the top of this page, mark in the following letters :–

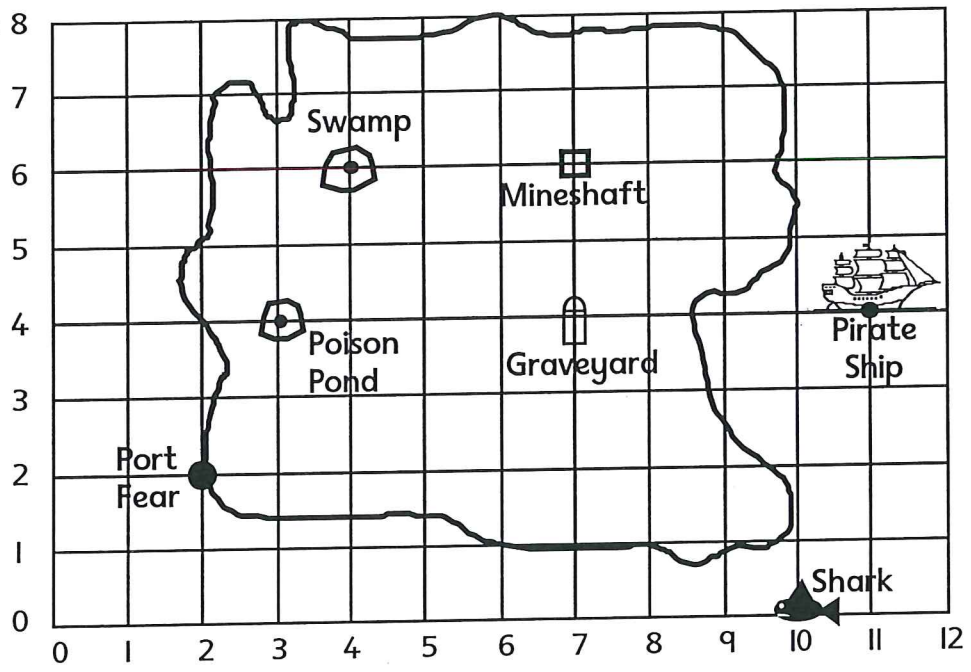
X(2, 4) W(5, 1) Z(7, 0) B(9, 4) F(0, 3) K(0, 0)

Remember :– Coordinates — read across first, then up

The point (4,3) → (4 , 3) means across 4 then up 3



DANGER ISLAND



4. Complete the coordinates :–

(a) Swamp (4 , ☐)

(b) Mineshaft (☐ , ☐)

(c) Port Fear (☐ , ☐)

(d) Poison Pond (☐ , ☐)

(e) Pirate ship (☐ , ☐)

(f) Shark (☐ , ☐)

5. Put these on the map above :–

(a) X marks the treasure. (8,1)

(b)  is a bomb. (6,5)

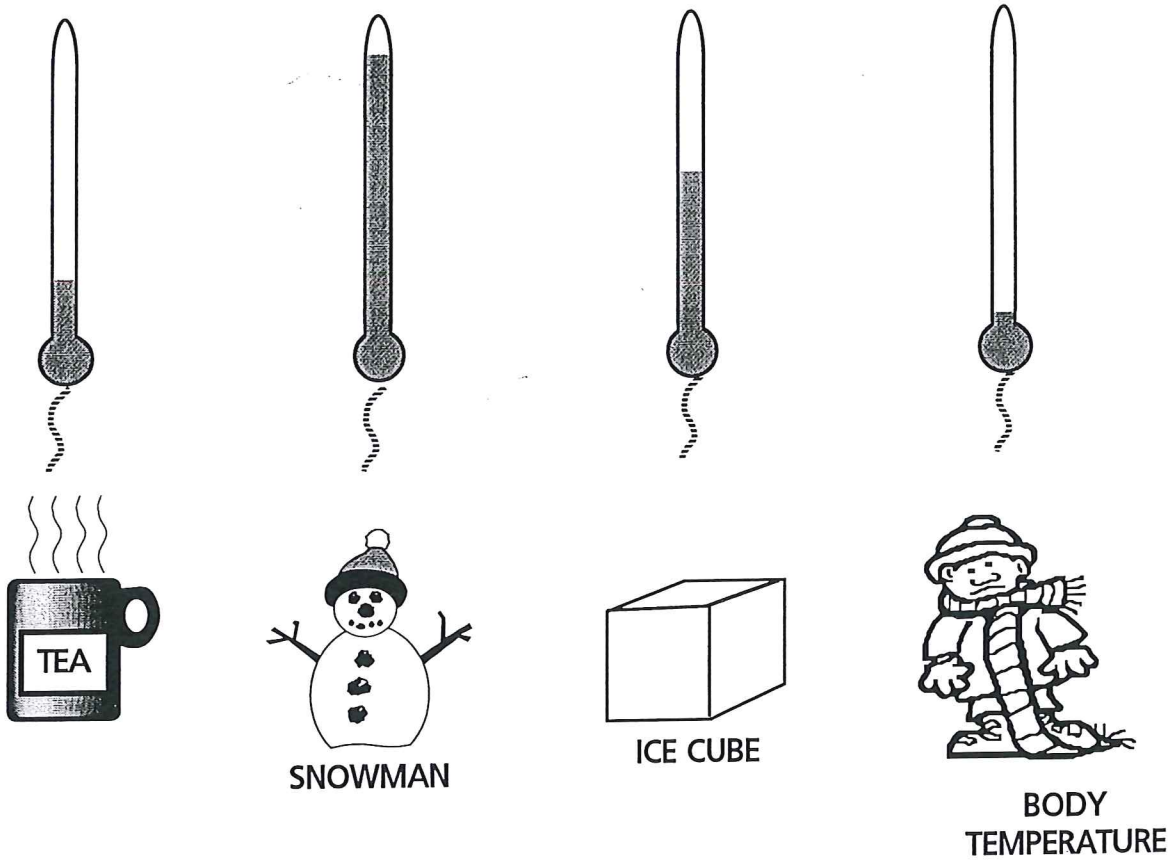
(c)  is a snake pit. (4,7)

(d)  is a jelly fish. (0,5)

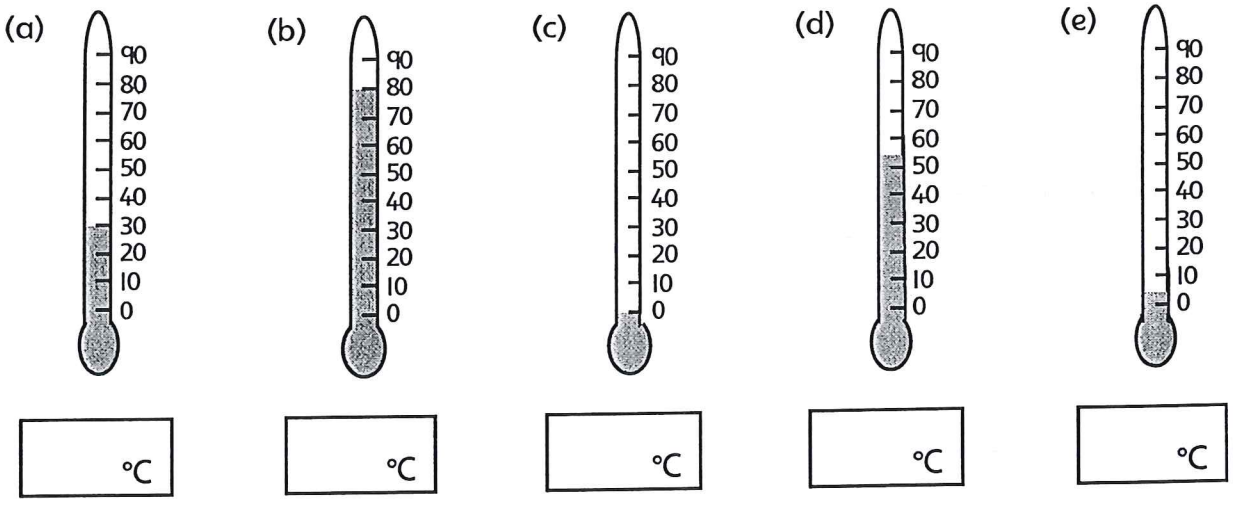
Homework Sheets
Temperature No. 7a

name .....
date due back .....
signed ..... score .....

1. Draw lines to match each thermometer to the correct picture.

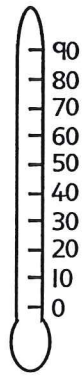


2. Write in the boxes the given temperatures.



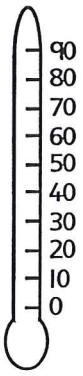
Shade in each thermometer to show the temperature given below.

(f)



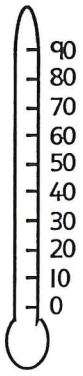
40°C

(g)



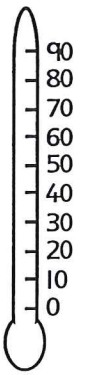
90°C

(h)



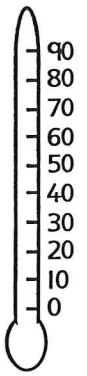
0°C

(i)



35°C

(j)



62°C

3. In each question below, draw a circle around the **colder temperature**.

example : – 5°C or (2°C) (2°C is lower than 5°C)

(a) 8°C or 3°C (b) 18°C or 9°C (c) 0°C or 2°C

(d) 4°C or –2°C (e) –1°C or 3°C (f) –4°C or 1°C

4. Draw a circle around the **highest temperature**.

(a) 4°C , 5°C or 2°C (b) –3°C , 1°C or –6°C (c) –33°C , –34°C or –35°C

5. **Use the thermometer on the right to help you answer these questions.**

(a) Last night the temperature in London was 4°C.

The temperature rose by 2°C. It is now ____ °C.

(b) The temperature in Russia was –3°C.

The temperature rose by 4°C. It is now ____ °C.

(d) The temperature in Iceland was –8°C.

The temperature rose by 14°C. It is now ____ °C.

(c) The temperature in Canada was –5°C.

The temperature fell by 6°C. It is now ____ °C.

Homework Sheets

Length

No. 9b

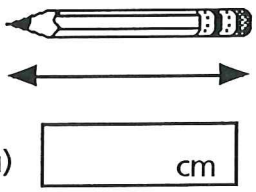
name .....

date due back .....

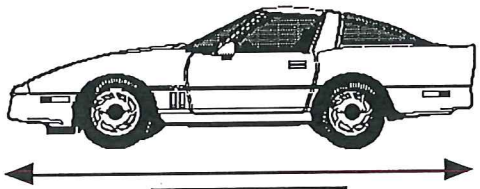
signed ..... score .....

You need a ruler for this homework !

1. Use a ruler to measure these lengths (to the nearest cm) :–



(a) ☐ cm



(b) ☐ cm

(c) ☐ cm

2. In the space below, draw lines with the lengths shown :–

(a) 9 cm → Start ●—

(b) 12 cm → ● - - -

(c) $4\frac{1}{2}$ cm → ●

3. Draw a rectangle in the space below which is <u>10 cm long</u> and <u>3 cm broad</u>.

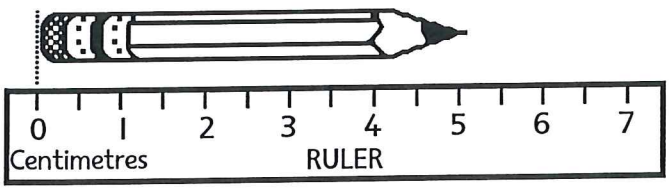
Start here ●·····

4. Draw a square where each side measures 4 cm.

Start here ●·····

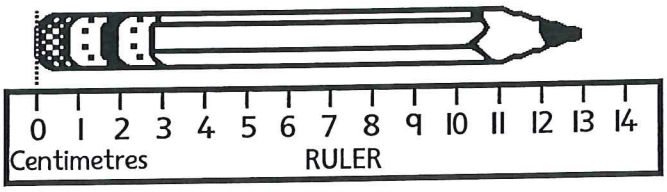
5. Write down the lengths of each pencil (to the nearest cm) :–

(a)



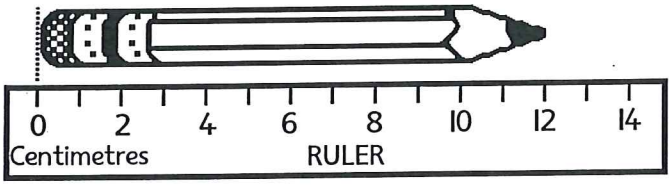
cm

(b)



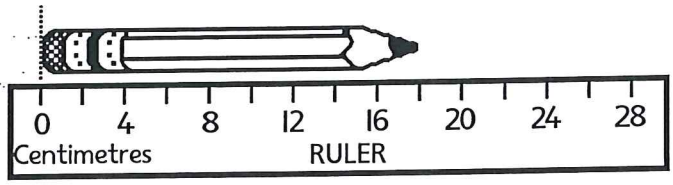
cm

(c)



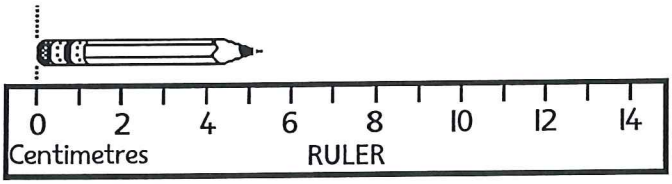
cm

(d)



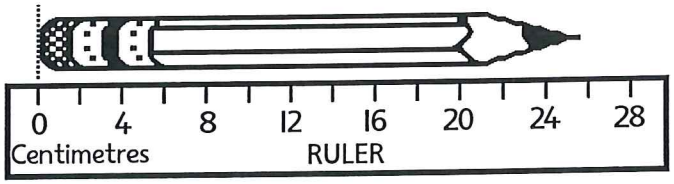
cm

(e)



cm

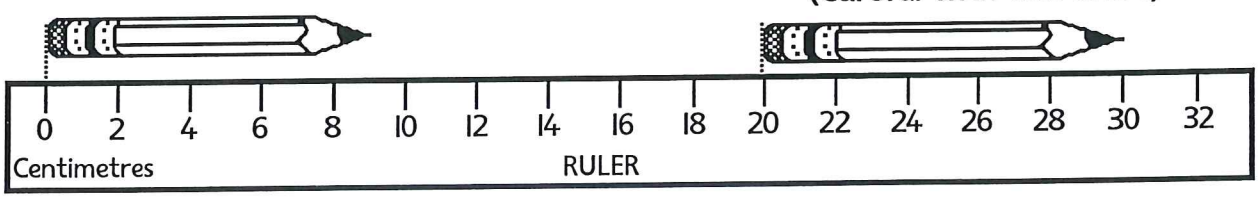
(f)



cm

(g)

(h) (Careful with this one !)



cm

cm

Homework Sheets

Length

No. 9c

name .....

date due back .....

signed ..... score .....

Remember : 156 cm = 1·56 m

1. Write the following lengths in metres (m) :–

(a) 158 cm = · m

(b) 252 cm = · m

(c) 186 cm = · m

(d) 140 cm = · m

(e) 200 cm = · m

(f) 86 cm = · m

(g) 8000 cm = · m

(h) 52 cm = · m

(i) 50000 cm = · m

(j) 3 cm = · m

2. Write the following lengths in centimetres (cm) :–

(a) 8·36 m = cm

(b) 5·72 m = cm

(c) 5·05 m = cm

(d) 8·01 m = cm

(e) 0·91 m = cm

(f) 0·04 m = cm

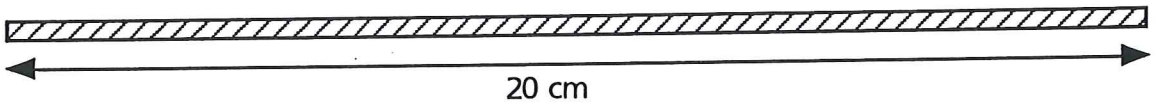
(g) 0·09 m = cm

(h) 0·20 m = cm

(i) 0·001 m = cm

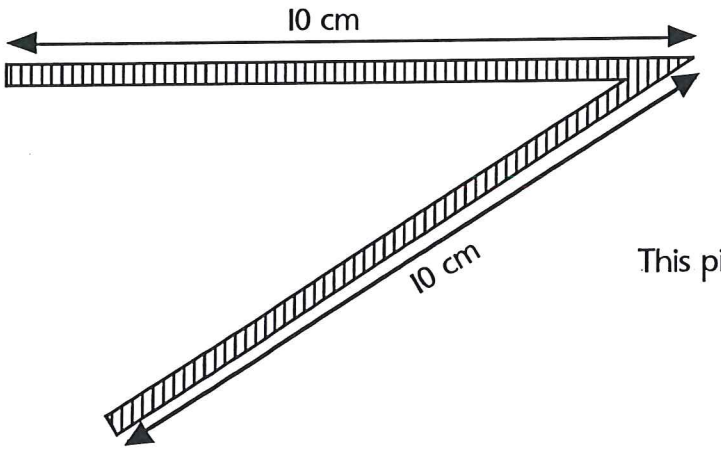
(j) 0·0001 m = cm

This piece of string is 20 cm in length.



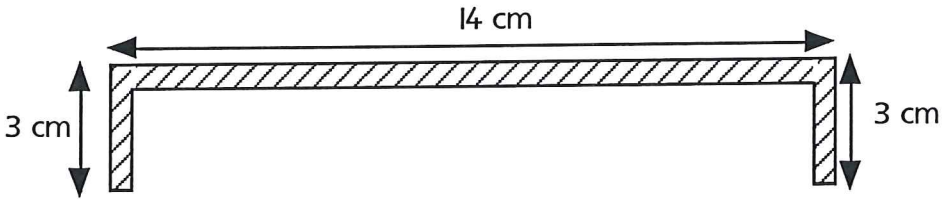
3. Calculate the length of each piece of string (do not measure) :–

(a)



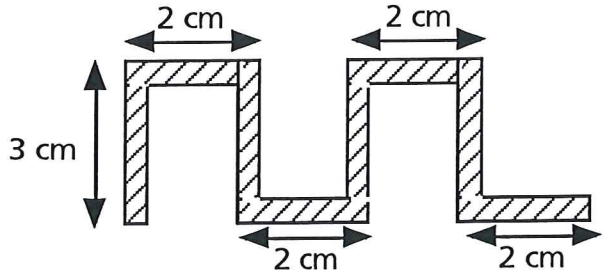
This piece of string is ☐ cm long.

(b)



This piece of string is ☐ cm long.

(c)



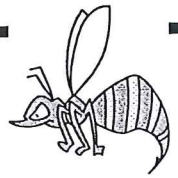
This piece of string is ☐ cm long.

What do you notice about all the pieces of string above ?

Homework Sheets

Measuring No.10a

name .....
date due back .....
signed ..... score .....



1. Circle which measurement you think is closest :–

(a) The length of a wasp's wing is — 5 mm 2 cm 10 cm 100 cm

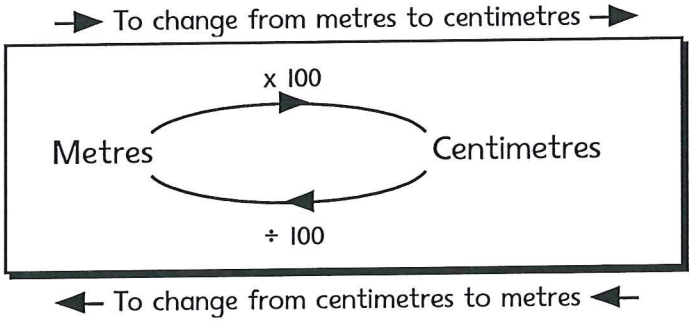
(b) The length of a new pencil is — 2 cm 5 cm 15 cm 40 cm

(c) The height of your bedroom is — 50 cm 1 m 3 m 10 m

(d) The length of your living room is — 1 m 2 m 7 m 50 m

(e) The distance from Glasgow to Edinburgh is — 1 km 5 m 80 km 1000 km

Remember :–



2. Change the following to **m** or **cm** :–

(a) 4 m = 4 x 100 = cm

(b) 8 m = 8 x = cm

(c) 37 m = 37 x = cm

(d) 4·21 m =

(e) 200 cm = 200 ÷ = m

(f) 900 cm =

(g) 462 cm =

(h) 374 cm =

(i) 3·04 m =

(j) 0·01 m =

(k) 405 cm =

(l) 25 cm =

Remember :– Kilometre —(x 1000)→ metres and metres —(x 1000)→ millimetres

3. Change the following from kilometres to metres or from metres to millimetres :–

(a) 5 km = ____ m

(b) 8 km = ____ m

(c) 52 km = ____ m

(d) 30 km = ____ m

(e) 3 m = ____ mm

(f) 12 m = ____ mm

(g) 10 m = ____ mm

(h) 0·2 m = ____ mm

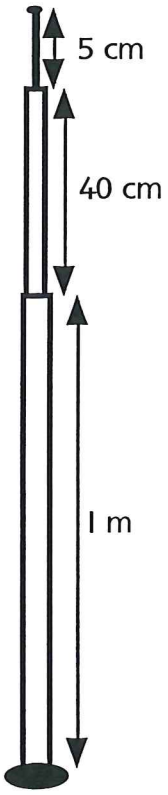
(i) 32 km = ____ m

(j) 2·5 m = ____ mm

4. (a) Baby Ben can throw a ball 3·2 metres.
He then kicks the ball 120 centimetres.

The ball has moved a total of ____ cm.

(b) A car aerial can be extended as shown.



The aerial has a total height of ____ m.

Working space

Homework Sheets

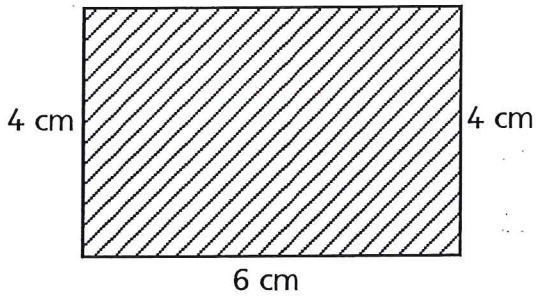
Measuring No.10b

name .....
date due back .....
signed ..... score .....

Remember :– Perimeter is the total distance round a shape.

1. Find the perimeter of the following shapes :–

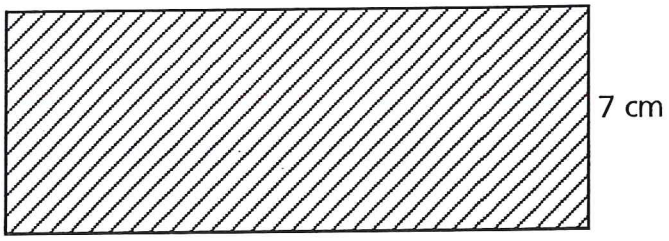
(a)



Perimeter = 6 + 4 + 6 + 4

= ☐ cm

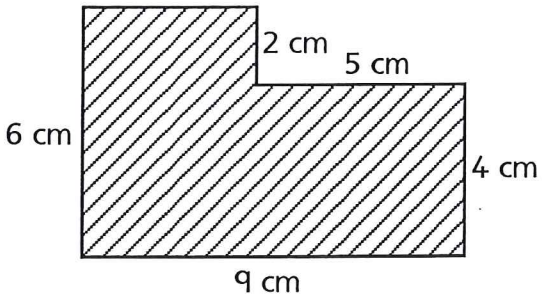
(b)



Perimeter = ☐ + ☐ + ☐

= ☐ cm

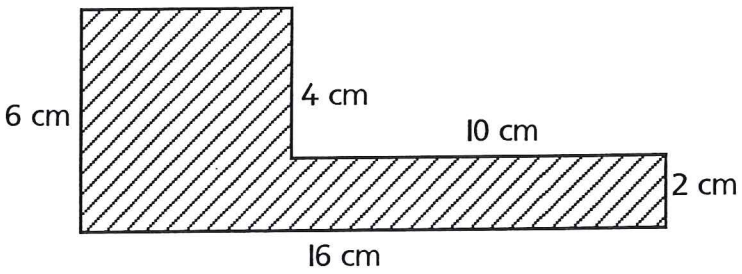
(c)



Perimeter = ☐

= ☐ cm

(d)

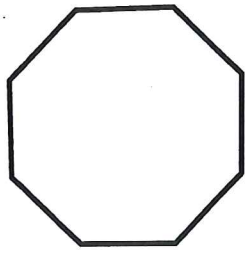


Perimeter = ☐

= ☐ cm

(e) An octagon is an eight sided figure.
Each side is 5 cm long.

The octagon's perimeter is ☐ cm .



Homework Sheets

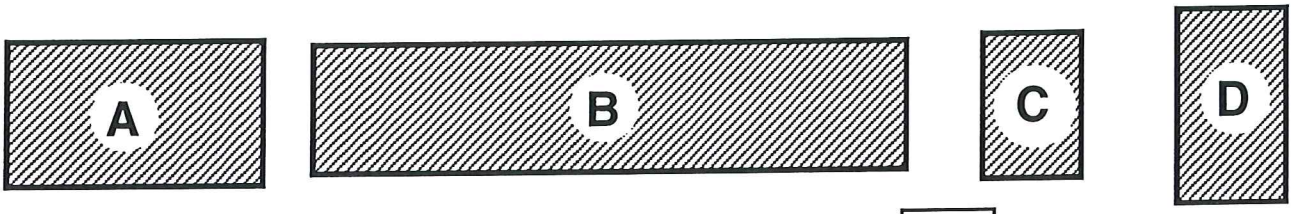
Areas No. 11a

name .....

date due back .....

signed ..... score .....

1.



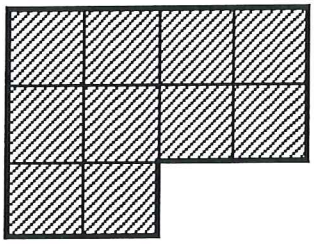
(a) Which rectangle has the smallest area ? — ☐

(b) Which rectangle has the largest area ? — ☐

(c) Which rectangle has the second largest area ? — ☐

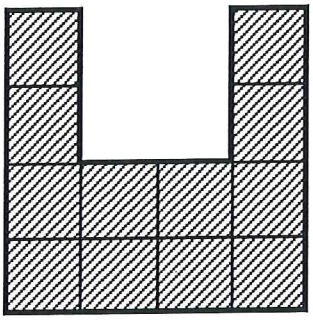
2. Write down the areas of these **shaded** shapes (in square centimetres) : ▨ = 1 square cm

(a)



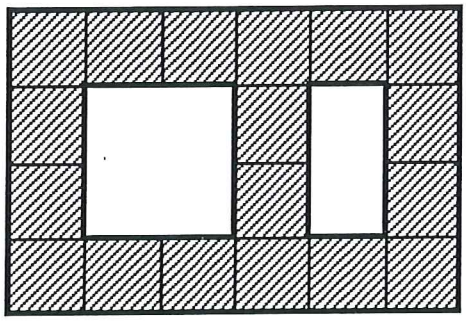
area = ☐ square cm

(b)



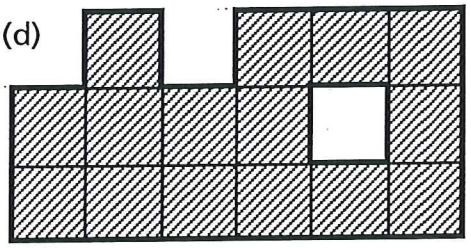
area = ☐ square cm

(c)



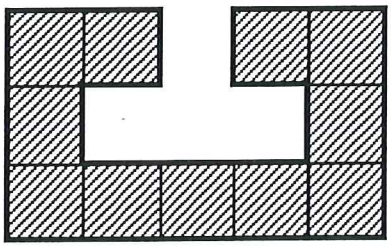
area = ☐ square cm

(d)



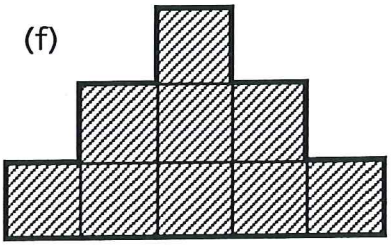
area = ☐ square cm

(e)



area = ☐ square cm

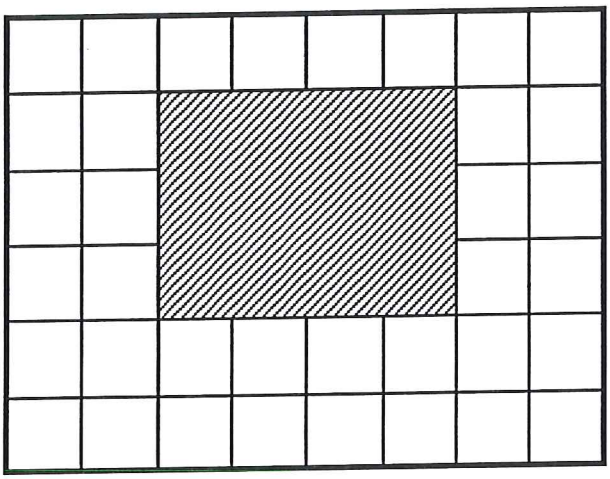
(f)



area = ☐ square cm

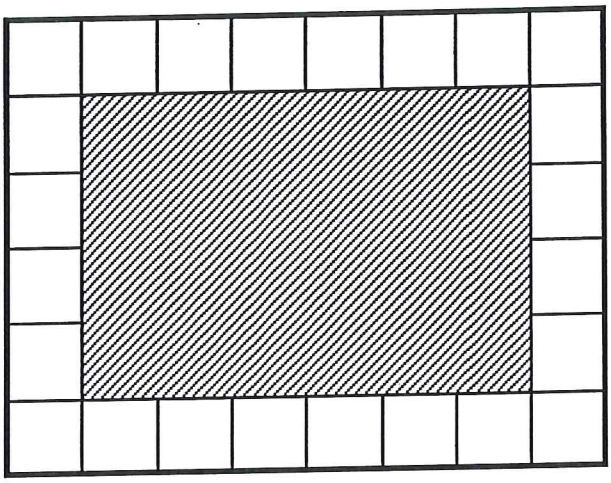
3. Write down the areas of these four **shaded** shapes (in square centimetres) :

(a)



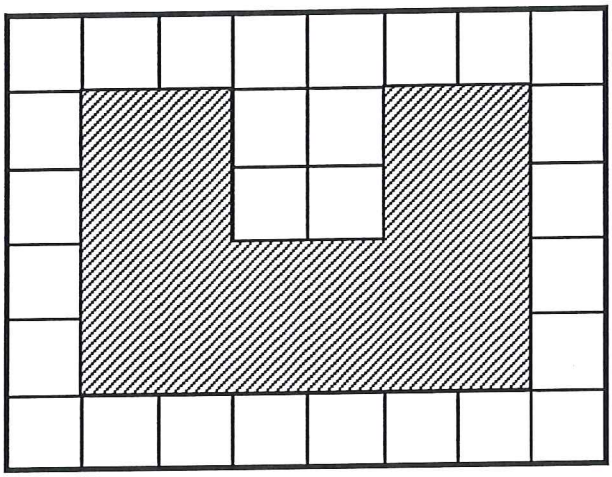
area = ☐ square cm

(b)



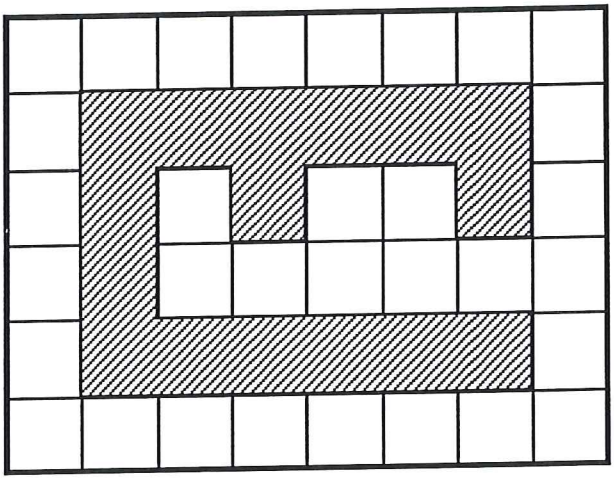
area = ☐ square cm

(c)



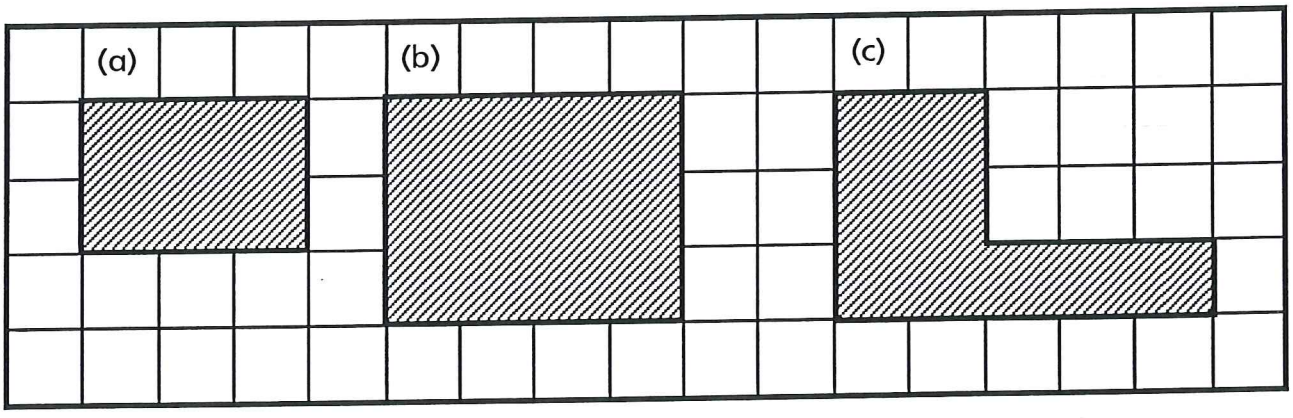
area = ☐ square cm

(d)



area = ☐ square cm

4. Write down the areas of these three **shaded** shapes (in square centimetres) :



area = ☐ square cm area = ☐ square cm area = ☐ square cm

Homework Sheets

Areas No. 11b

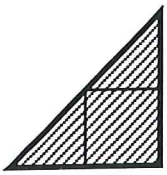
name .....

date due back .....

signed ..... score .....

1. Write down the areas of these shapes :–

(a)

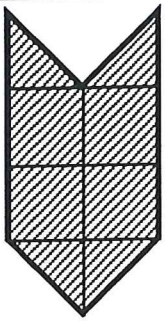


Area = ☐ square centimetres

(b)

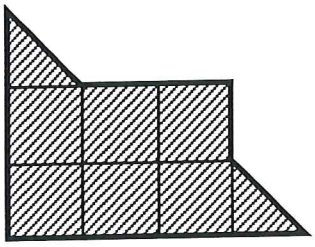
Area = ☐ square centimetres

(c)



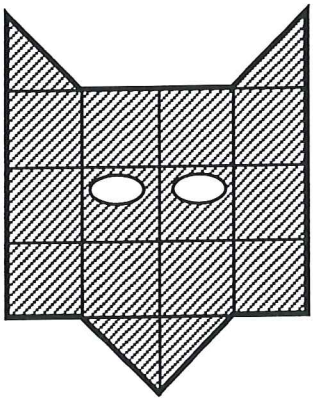
Area = ☐ square centimetres

(d)



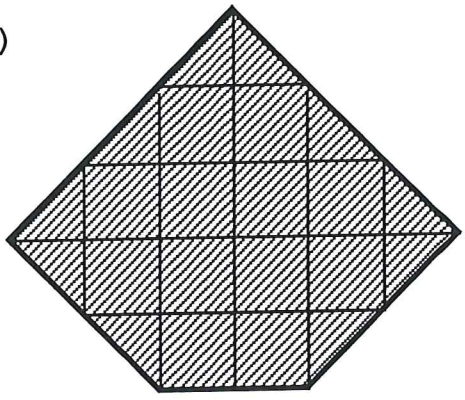
Area = ☐ square centimetres

(e)



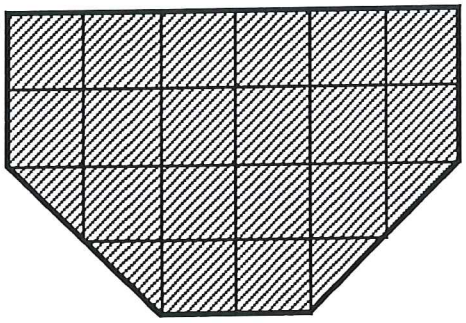
Area = ☐ square centimetres

(f)



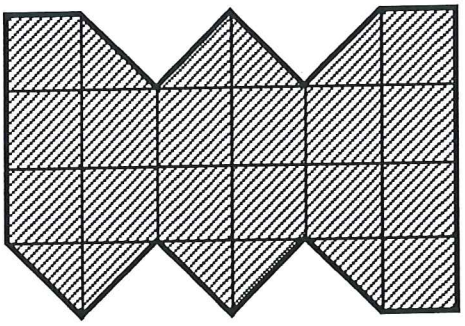
Area = ☐ square centimetres

(g)



Area = ☐ square centimetres

(h)



Area = ☐ square centimetres

2. Estimate the areas of each of these shapes.

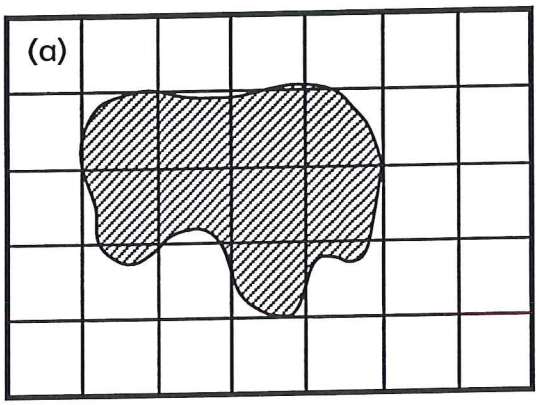
count when **more** than half a square is covered

count this one

do not count when **less** than half a square is covered

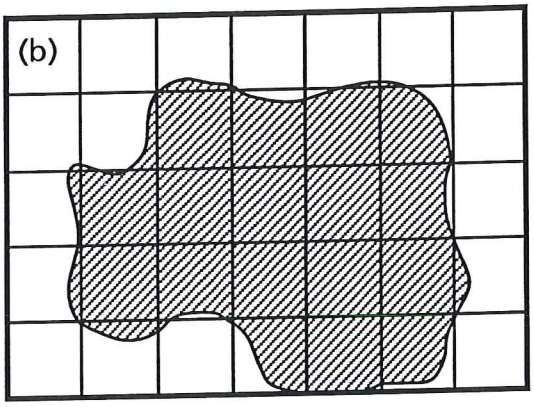
do not count this one

(a)



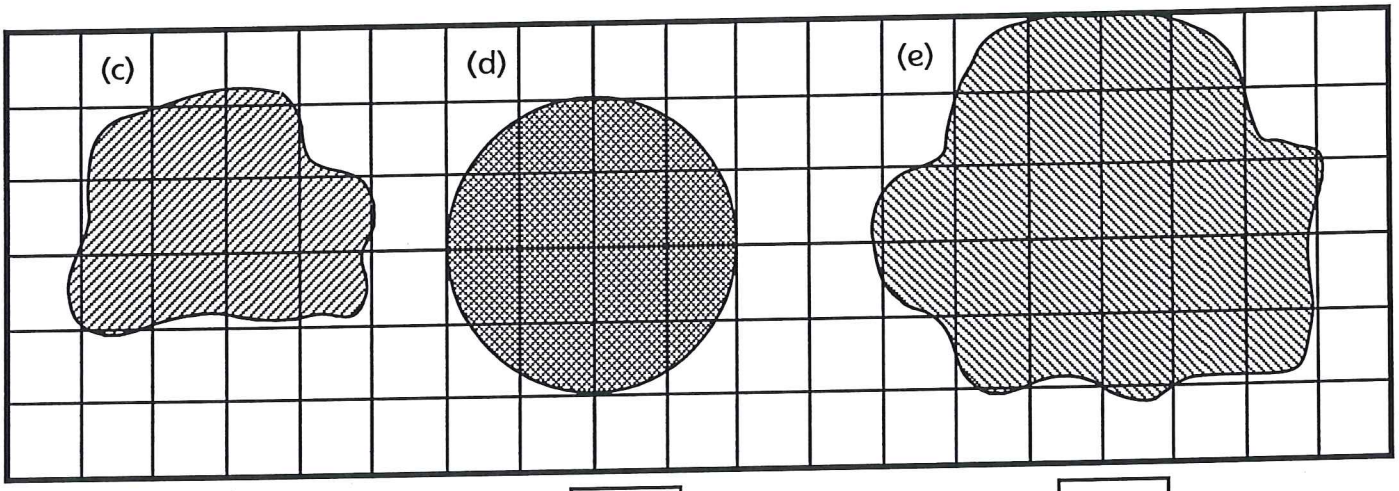
Area = ☐ square cm

(b)



Area = ☐ square cm

(c)



Area = ☐ square cm

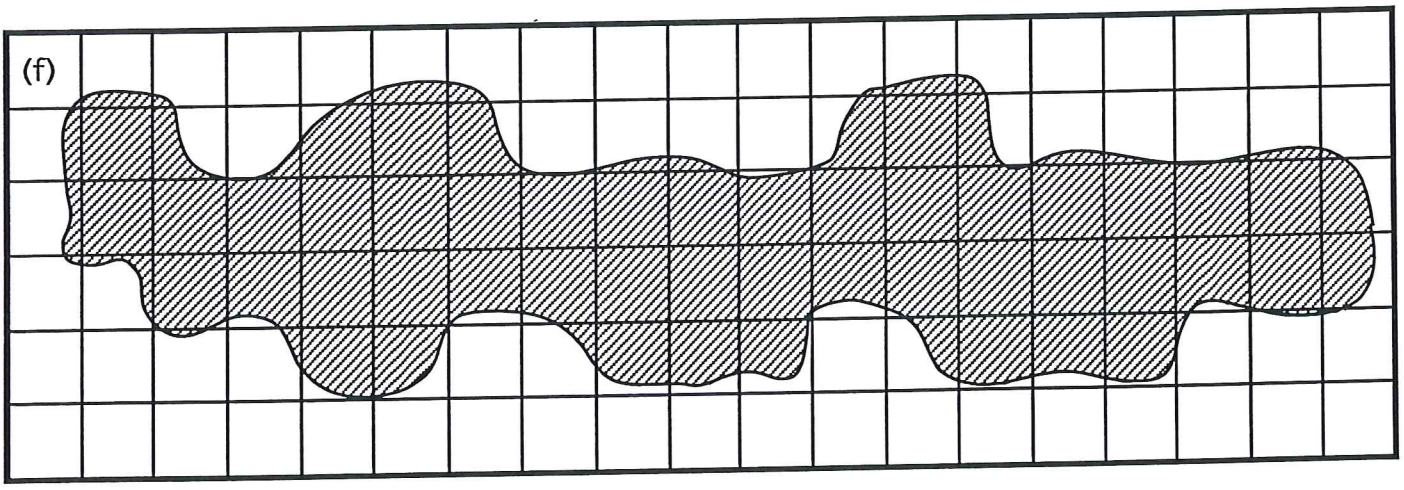
(d)

Area = ☐ square cm

(e)

Area = ☐ square cm

(f)

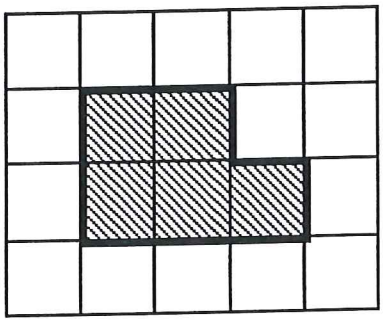


Area = ☐ square cm

2. Find the shaded area of each shape

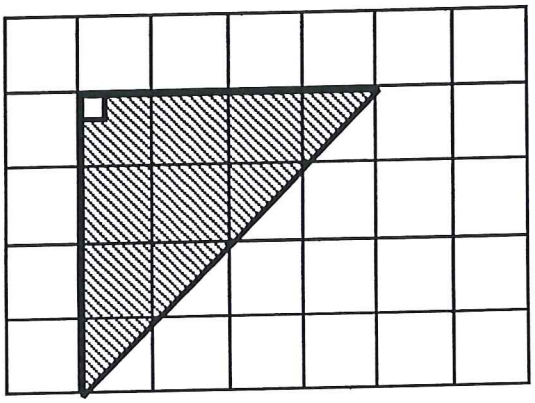
Remember  is 1 cm^2

(a)



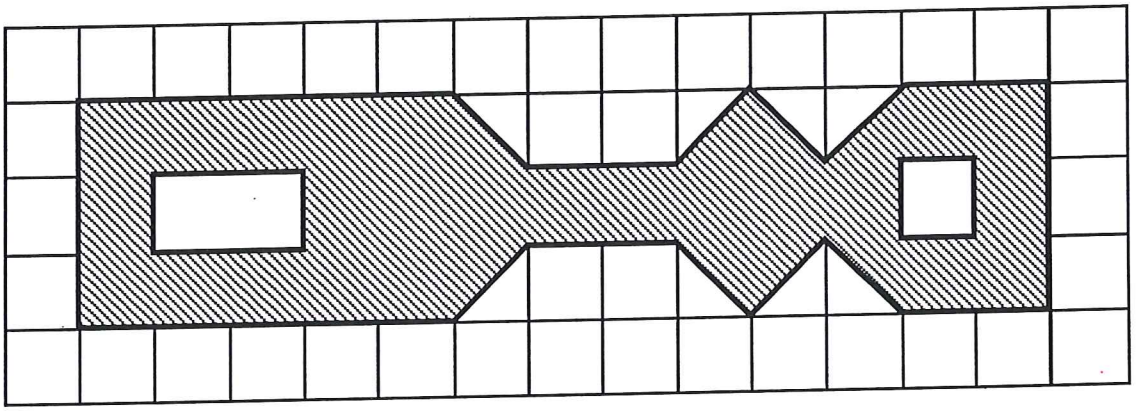
Area is ☐ cm^2

(b)



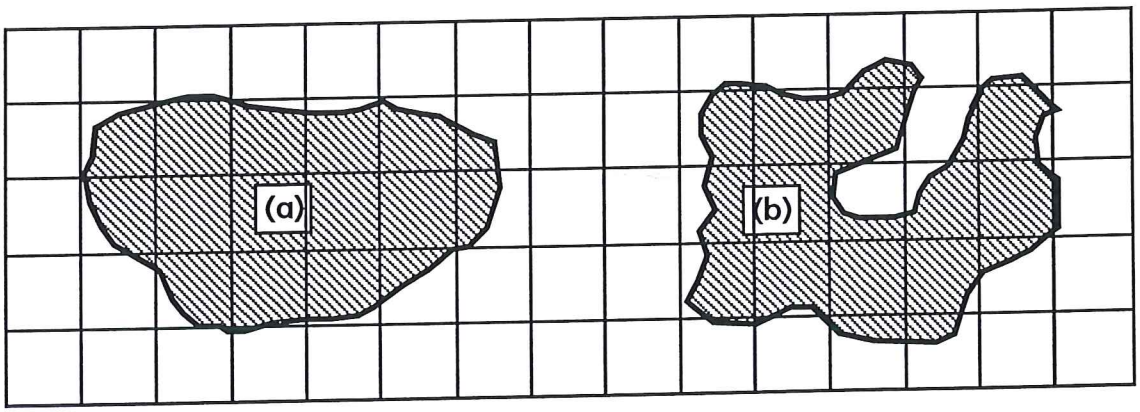
Area is ☐ cm^2

(c)



Area is ☐ cm^2

3. Estimate the shaded areas. [count squares which are more than $1/2$ covered]
[don't count the ones less than half covered]

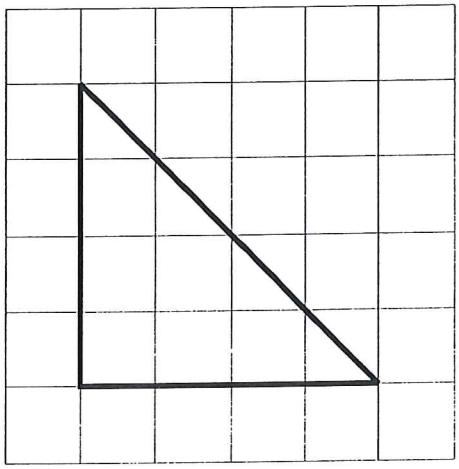


(a) Area is ☐ cm^2

(b) Area is ☐ cm^2

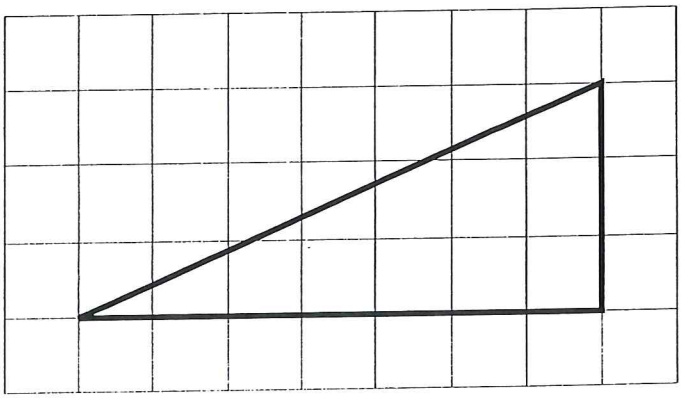
4. Find the areas of the following triangles.

(a)



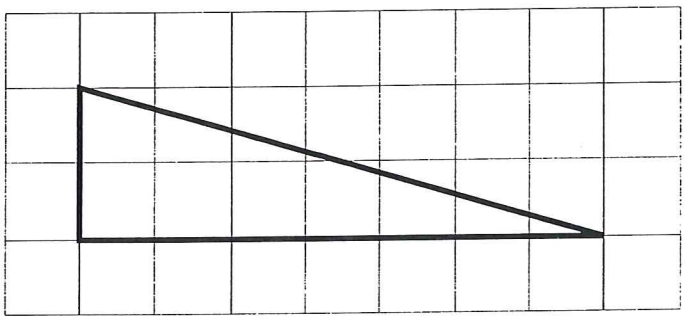
Area is ☐ cm^2

(b)



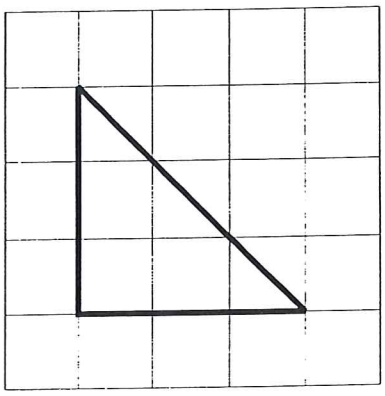
Area is ☐ cm^2

(c)



Area is ☐ cm^2

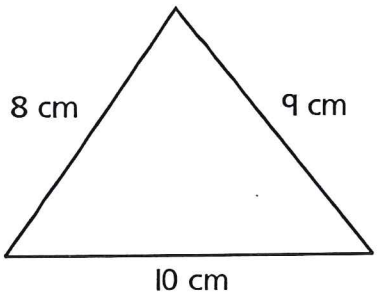
(d)



Area is ☐ cm^2

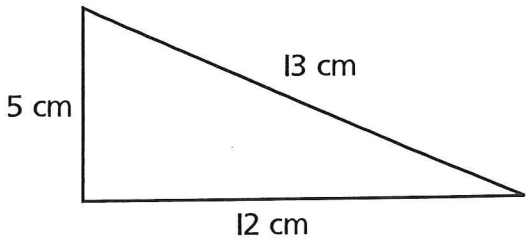
5. Find the **perimeter** of each of the following triangles .

(a)



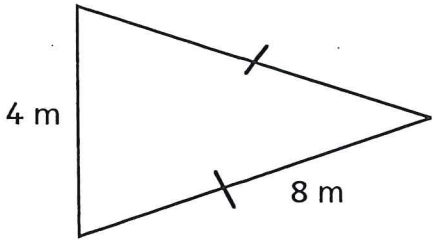
Perimeter is ☐ cm

(b)



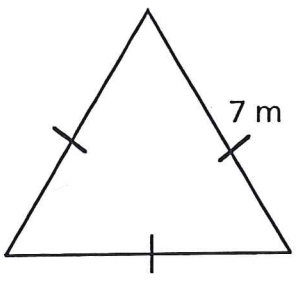
Perimeter is ☐ cm

(c)



Perimeter is ☐ m

(d)



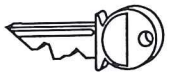
Perimeter is ☐ m

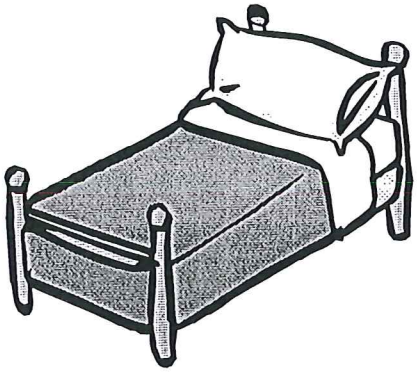
Homework Sheets
Volume No. 14a

name .....
date due back .....
signed ..... score .....

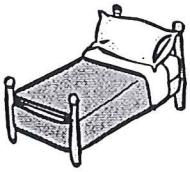
Draw a circle around the object which takes up the most space in each of the following :-

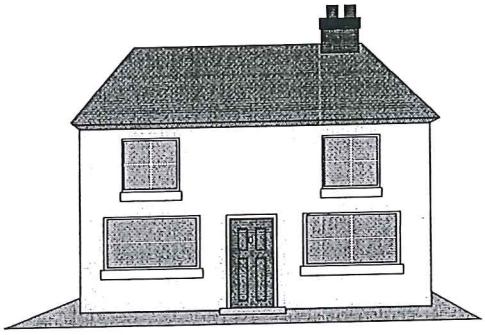
1.

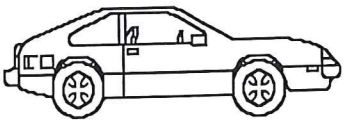




2.

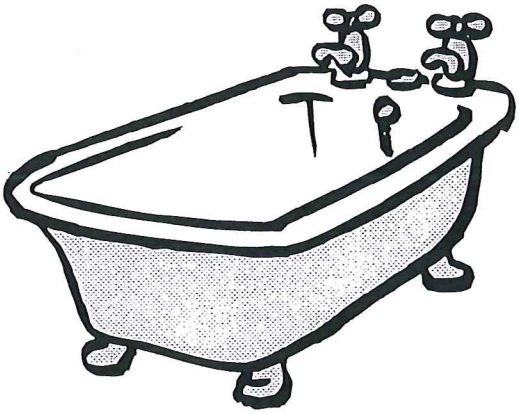






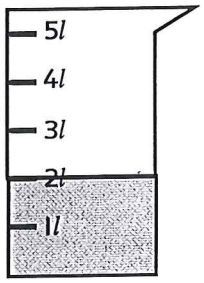
3.

4.



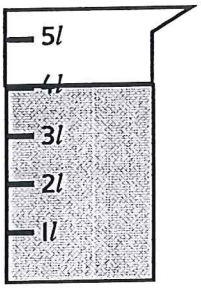
5. Cola has been poured into each of the beakers shown below.
Write how many litres (*l*) are in each beaker :–

(a)



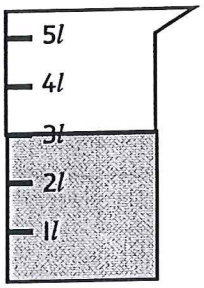
litres

(b)



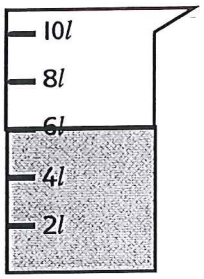
litres

(c)



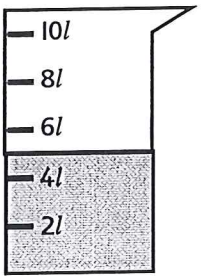
litres

(d)



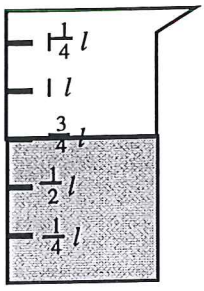
litres

(e)



litres

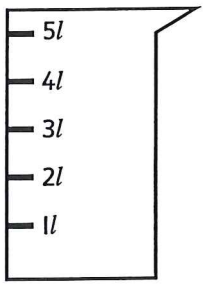
(f)



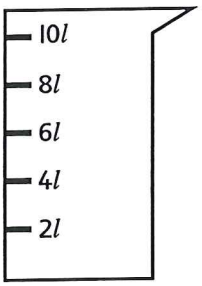
litres

6. <u>Three</u> litres of cola is poured into each of the beakers shown below.
Draw a line on each beaker and colour in the cola.

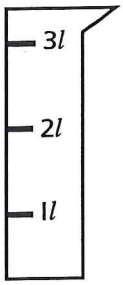
(a)



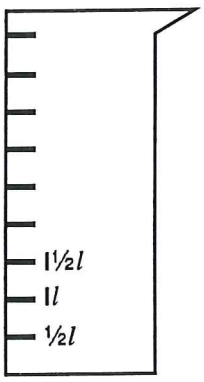
(b)



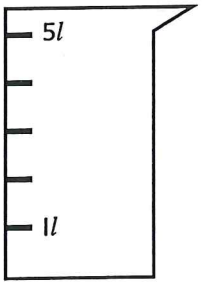
(c)



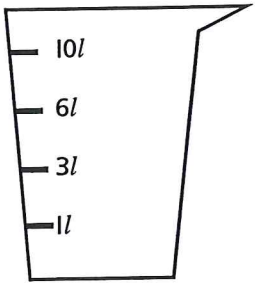
(d)



(e)



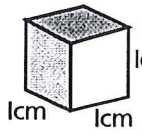
(f)



Homework Sheets

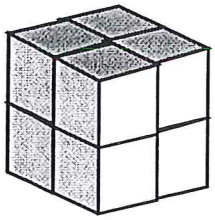
Measuring No.10c

name .....
date due back .....
signed ..... score .....

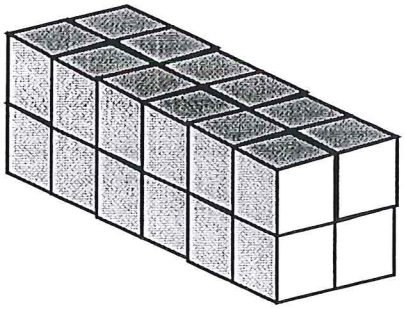
Remember :– 

– is 1 cubic centimetre (written as 1 cm^3).

1. Find the volume of each of the shapes below :–

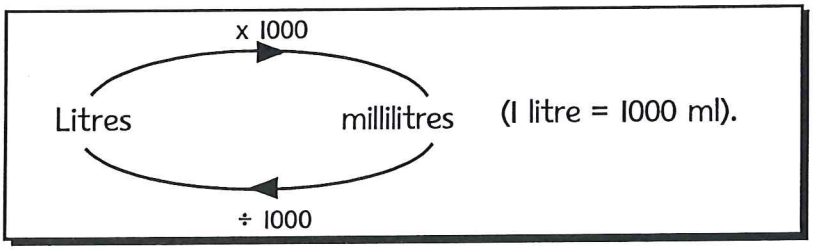
(a) 

Volume is ☐ cm^3

(b) 

Volume is ☐ cm^3

Remember :–



(1 litre = 1000 ml).

2. Change the following to litres (litre) or millilitres (ml) :–

(a) 2 litre = ☐ ml

(b) 18 litre = ☐ ml

(c) 4000 ml = ☐ litre

(d) 45000 ml = ☐ litre

(e) 1·4 litre = ☐ ml

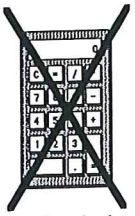
(f) 0·5 litre = ☐ ml

(g) 800 ml = ☐ litre

(h) 100 ml = ☐ litre

Homework Sheets
Equations 1 No. 8a

name .....
date due back .....
signed ..... score .....


no calculator

1. How much is in each of the following bags ?

Example  + £2 = £9. There is £7 in the bag.

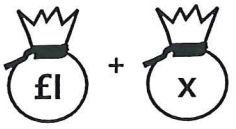
(a)  + £5 = £8
x = ☐

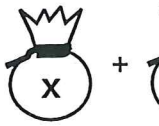
(a)  + £6 = £11
x = ☐

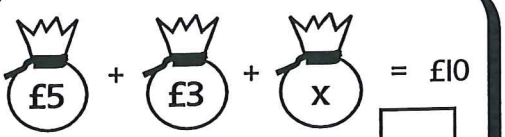
(c)  + £3 = £10
x = ☐

(d)  = £4
x = ☐

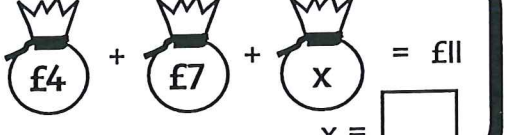
(e)  = £15
x = ☐

(f)  = £11
x = ☐

(g)  = £20
x = ☐

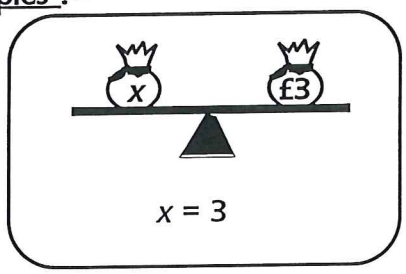
(h)  = £10
x = ☐

(i)  = £12
x = ☐

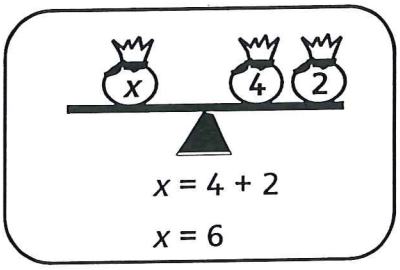
(j)  = £11
x = ☐

2. Make up an equation for each balance and solve the equation.

Examples :–

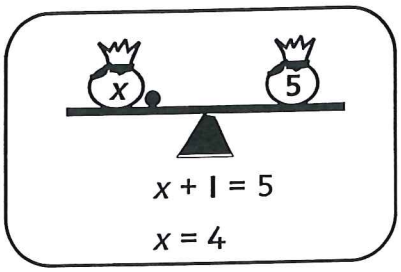


$x = 3$



$x = 4 + 2$

$x = 6$

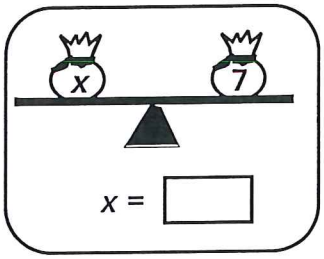


$x + 1 = 5$

$x = 4$

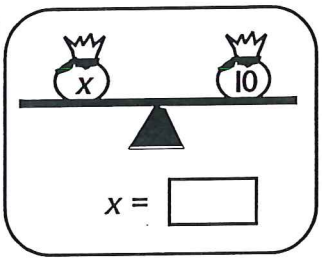
Form an equation for each balance here and solve it :–

(a)



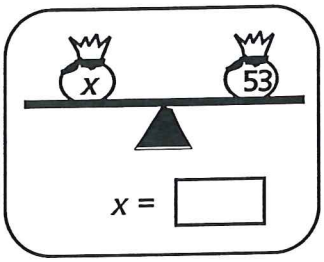
$x =$ ☐

(b)



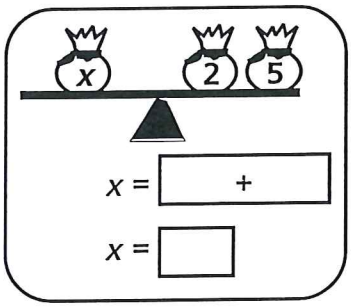
$x =$ ☐

(c)



$x =$ ☐

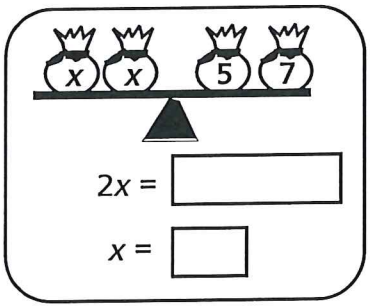
(d)



$x =$ ☐ +

$x =$ ☐

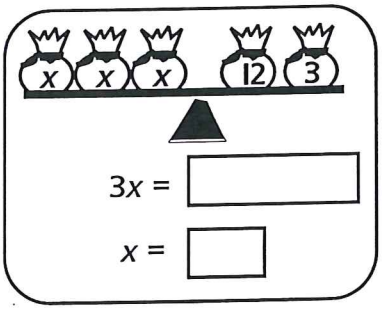
(e)



$2x =$ ☐

$x =$ ☐

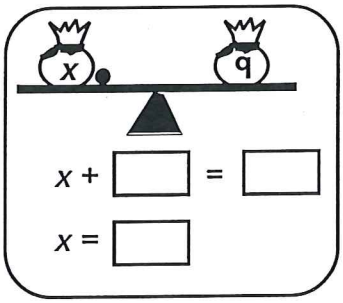
(f)



$3x =$ ☐

$x =$ ☐

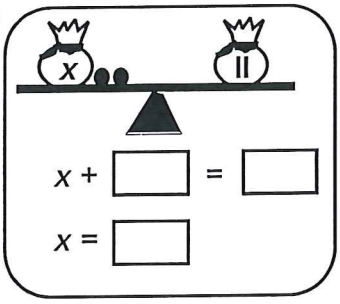
(g)



$x +$ ☐ $=$ ☐

$x =$ ☐

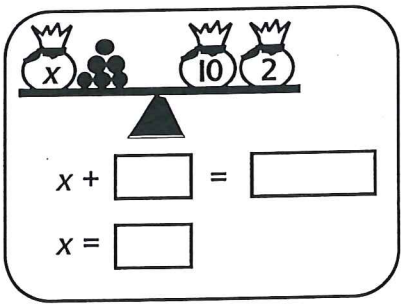
(h)



$x +$ ☐ $=$ ☐

$x =$ ☐

(i)



$x +$ ☐ $=$ ☐

$x =$ ☐

3. **PROBLEM !!** James thought of a number.
He multiplied it by 7.
His answer was 21.
James had been thinking of the number ☐ .

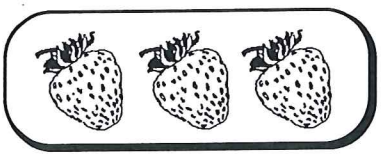
working (if needed)

Homework Sheets
Equations 2 No. 16a

name .....
date due back .....
signed ..... score .....

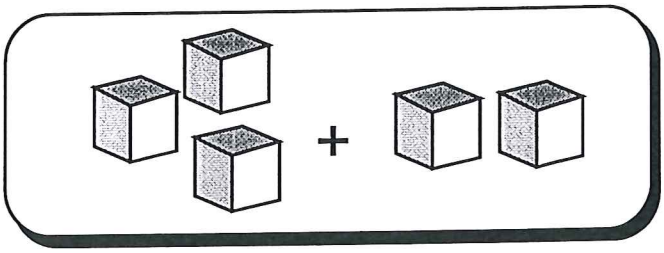
1. Use letters instead of words for the following :-

Example



3 strawberries = 3s

use "s" to stand for strawberry

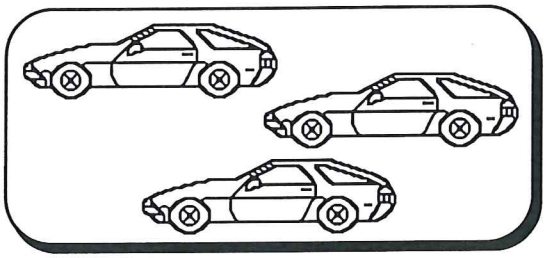


3 boxes + 2 boxes

3b + 2b = 5b

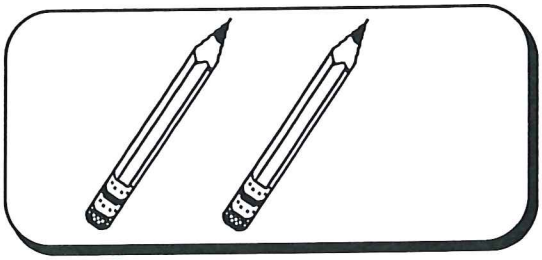
use "b" to stand for box

(a)



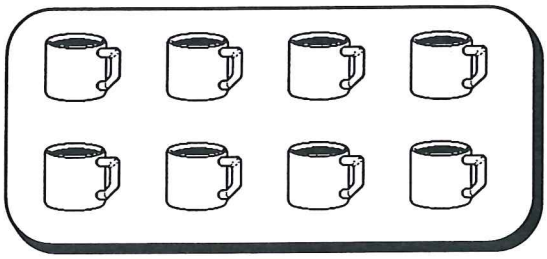
3 cars = ☐

(b)



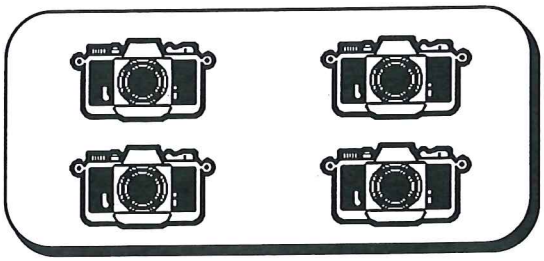
2 pencils = ☐

(c)



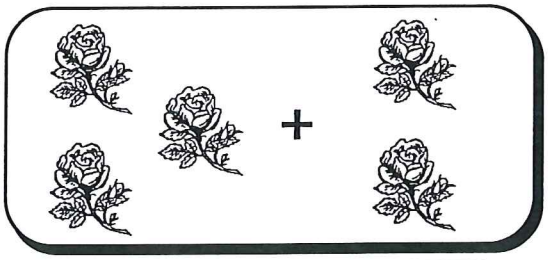
8 mugs = ☐

(d)



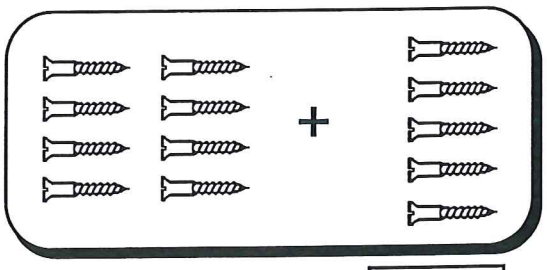
4 cameras = ☐

(e)



3 roses + 2 roses = ☐

(f)



8 screws + 5 screws = ☐

2. Tidy up the following :–

(a) $2a + 3a =$ ☐

(b) $4b + 8b =$ ☐

(c) $2c + c =$ ☐

(d) $5d - 2d =$ ☐

(e) $8e - 6e =$ ☐

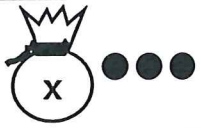
(f) $5f - 4f =$ ☐

(g) $15g + 8g =$ ☐

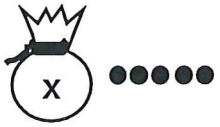
(h) $22h + 9h =$ ☐

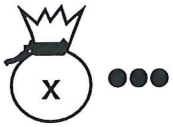
(i) $19k - 11k =$ ☐

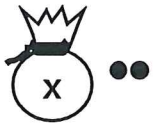
(j) $42j - 37j =$ ☐

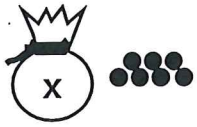
Remember :–  = x + 3

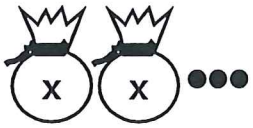
3. How many coins are in each of the following :–

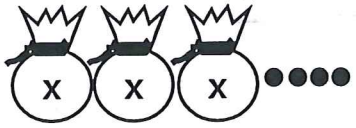
(a)  = ☐ +

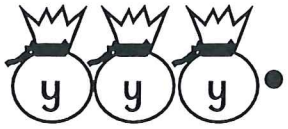
(b)  = ☐ +

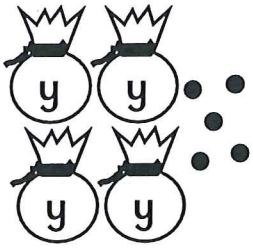
(c)  = ☐

(d)  = ☐

(e)  = ☐

(f)  = ☐

(g)  = ☐

(h)  = ☐

4. **Problem !!** I have a bag of sweets. I give 4 sweets to John.

I have 5 sweets left in the bag.

How many sweets did I have in the bag to begin with ? ☐

Working (if needed)