Cumbernauld Academy

Mathematics Department

1st/2nd Level

Block 4 - homework booklet

Name .....

Multiples of numbers

1 Multiples of 6 and 7

Multiples of 6 are: **6 12 18 ...**

Multiples of 7 are: **7 14 21 ...**

A: Shade multiples of 6

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54
55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81

B: Shade multiples of 6

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90

C: Shade multiples of 7

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	94	95	96

D: Shade multiples of 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98

Multiples of numbers

2 Multiples of 8 and 9

Multiples of 8 are: **8 16 24 ...**

Multiples of 9 are: **9 18 27 ...**

E: Shade multiples of 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98										

F: Shade multiples of 8

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40	41	42
43	44	45	46	47	48	49
50	51	52	53	54	55	56
57	58	59	60	61	62	63
64	65	66	67	68	69	70
71	72	73	74	75	76	77
78	79	80	81	82	83	84
85	86	87	88	89	90	91

G: Shade multiples of 9

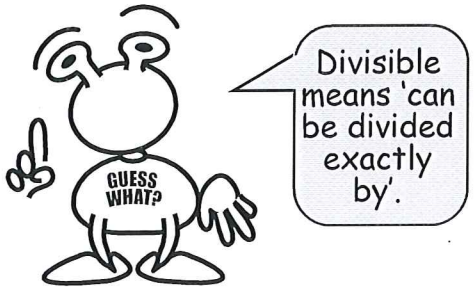
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	

H: Shade multiples of 9

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33
34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63	64	65	66
67	68	69	70	71	72	73	74	75	76	77
78	79	80	81	82	83	84	85	86	87	88

Testing for divisibility

1 Numbers divisible by 2, 5, 10 or 100



1 Eight of these numbers are divisible by 10. Circle them.

60	75	30	36	70	45	69	100
95	40	300	125	240	450	35	

2 Eight of these numbers are divisible by 5. Circle them.

52	55	70	19	80	23	69	20
85	44	900	225	314	128	15	

3 Eight of these numbers are divisible by 2. Circle them.

24	15	40	16	71	35	68	201
17	28	567	678	120	561	2472	

4 Eight of these numbers are divisible by 100. Circle them.

605	750	30	360	700	45	1300	100
9100	400	3000	125	2000	450	750 000	

Testing for divisibility

2 Dividing 2-digit numbers by 4

To divide by 4, halve the number, then halve it again.

1 $12 \div 4 =$ ..... 3 $36 \div 4 =$ ..... 5 $84 \div 4 =$ ..... 7 $52 \div 4 =$ .....

2 $44 \div 4 =$ ..... 4 $68 \div 4 =$ ..... 6 $20 \div 4 =$ ..... 8 $92 \div 4 =$ .....

3 Test of divisibility by 4

A number is divisible by 4, if dividing by 4 gives a whole number.

Example

Is 72 divisible by 4?

Half of 72 = 36

Half of 36 = 18

So 72 is divisible by 4

Example

Is 86 divisible by 4?

Half of 86 = 43

Half of 43 = $21\frac{1}{2}$

So 86 is *not* divisible by 4

1 Is 56 divisible by 4? .....

2 Is 88 divisible by 4? .....

3 Is 9 divisible by 4? .....

4 Is 26 divisible by 4? .....

If a large number is divisible by 4, its last two digits are divisible by 4.

5 Eight of the numbers below are divisible by 4. Circle them.

240	315	420	1680	710	346	6888	2030
1555	2442	5672	6728	1200	561	2436	

Factors

1 Factor pairs

Example

$2 \times 3 = 6$

2 is a factor of 6 | 3 is a factor of 6

2 and 3 are a factor pair of 6

$1 \times 6 = 6$

1 is a factor of 6 | 6 is a factor of 6

1 and 6 are a factor pair of 6

The factors of 6 are 1, 2, 3, 6

1 $18 = 1 \times 18$ ..... and ..... are factors of 18

$18 = 2 \times 9$ ..... and ..... are factors of 18

$18 = 3 \times$ .... and ..... are factors of 18

2 $20 = 1 \times$ .....

$20 = 2 \times$ ..... The factors of 20 are ....

$20 =$ ..... $\times$ ....

3 $24 = 1 \times$ .....

$24 = 2 \times$ .....

$24 =$ ..... $\times$ ..... The factors of 24 are ....

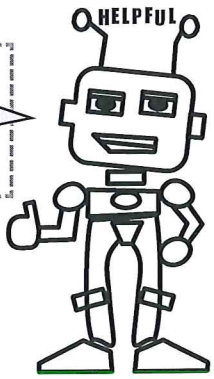
$24 =$ ..... $\times$ ....

Example

Repeated factors $9 = 1 \times 9$

$9 = 3 \times 3$

The factors of 9 are 1, 3, and 9. We write the 3 down only once.



4 $36 = 1 \times$ .....

$36 = 2 \times$ .....

$36 =$ ..... $\times$ ..... The factors of 36 are ....

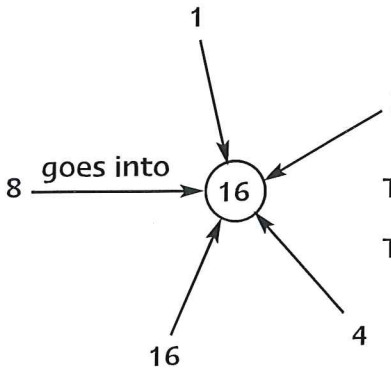
$36 =$ ..... $\times$ ....

$36 =$ ..... $\times$ ....

Factors

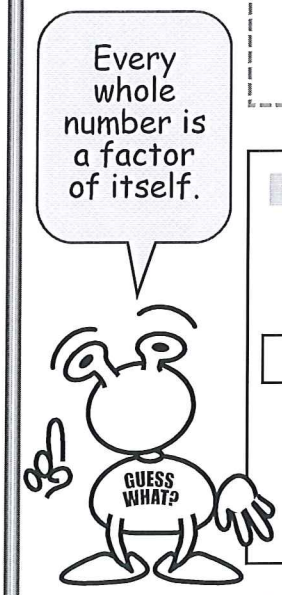
2 Factors

Example

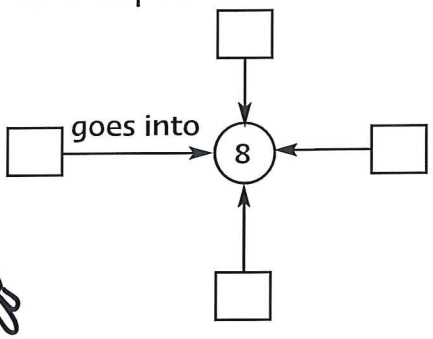


This is a factor diagram for 16.

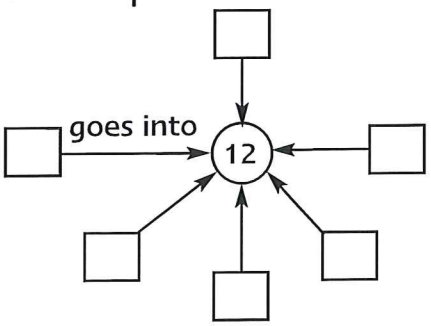
The factors of 16 are 1, 2, 4, 8, 16.



1 Complete:



2 Complete:



3 6 has four factors. Find all the factors of 6. ....

4 49 has three factors. Find all the factors of 49. ....

5 Complete:

The factors of 20 are .....

.....

6 Complete:

The factors of 30 are .....

.....

Factors

STAR CHALLENGE 7

Factor diagrams

★★

13 correct 2 stars
11–12 correct 1 star

Complete each of these factor diagrams:

1

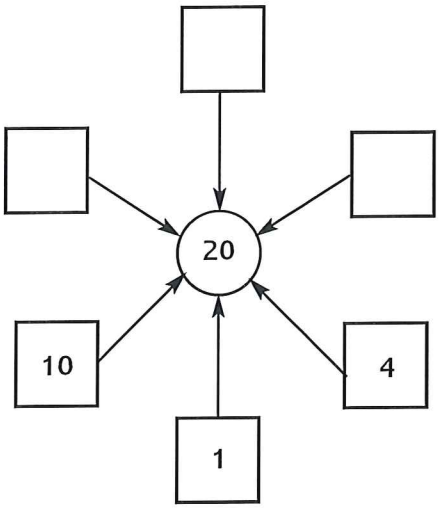


Diagram 1

(4 marks)

2

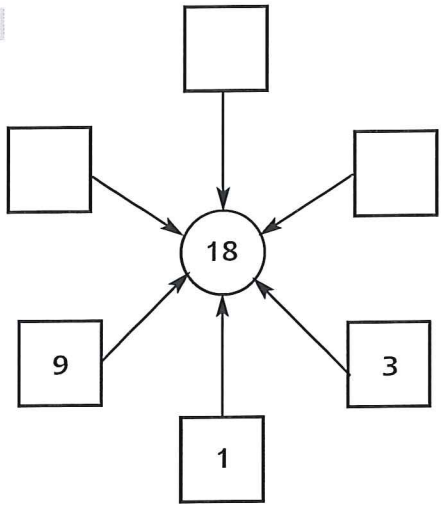


Diagram 2

(4 marks)

3

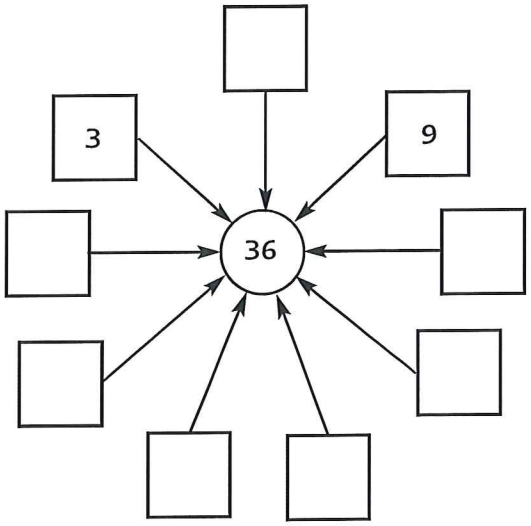


Diagram 3

(8 marks)

7

Calculating with money

STAR CHALLENGE 10

Meet the @ symbol

15–16 correct 2 stars
10–14 correct 1 star

2 pens @ 12p
means '2 pens at 12p each'

3 pkts nails @ 25p
means '3 packets of nails at 25p per packet'

Find the cost of:

1 3 pencils @ 10p .....

2 4 pkts nails @ 25p .....

3 3 cakes @ 40p .....

4 2 loaves @ 60p .....

5 3 tins beans @ 16p .....

6 6 roses @ £2 .....

Complete each of these bills:

7 **Bodger's DIY Ltd.**

4 shelves @ £2.45	.....
8 brackets @ 42p	.....
5 packs wood screws @ £1.06	.....
Wood glue @ 48p	£0.48
Total	.....

8 **Gossips Newspaper Shop**

6 copies Daily Waffle @ 65p	.....
5 copies Evening Chat @ 25p	.....
1 magazine @ 48p	.....
2 comics @ 35p	.....
Delivery charge 25p	.....
Total	.....

Homework Sheets

2D No. 13a

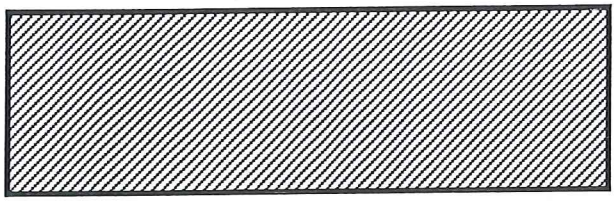
name .....

date due back .....

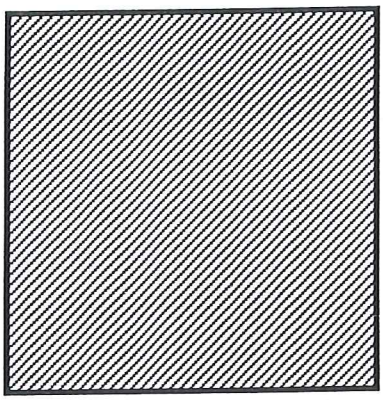
signed ..... score .....

1. Under each shape, write its name :–

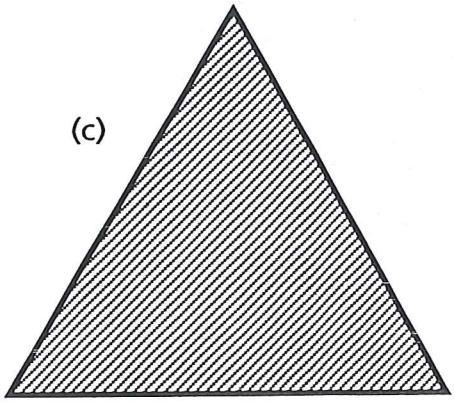
(a)



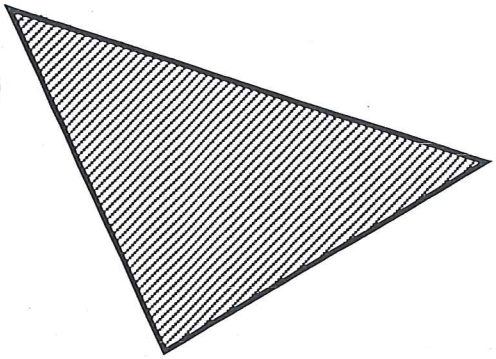
(b)



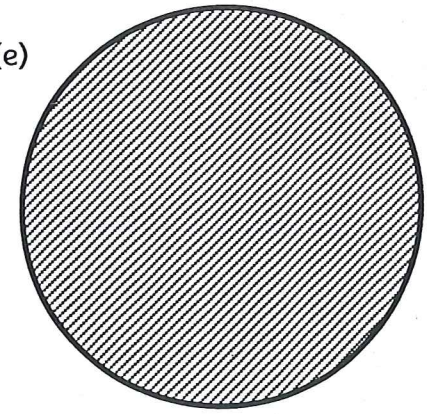
(c)



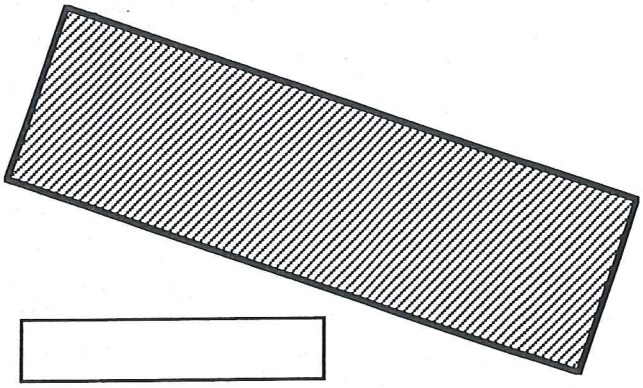
(d)



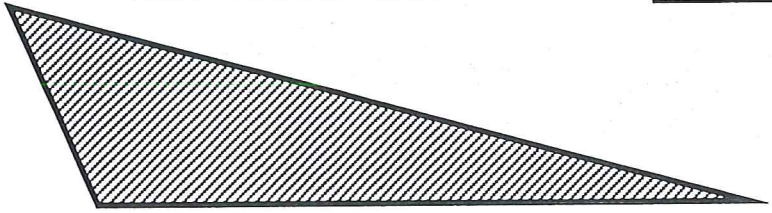
(e)



(f)



(g)



2. Name the shape I am talking about :–

(a) This shape has three sides. What is it called ?

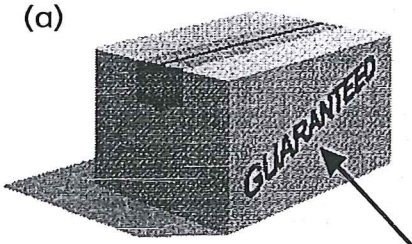
(b) This shape has no straight lines and goes round and round.

(c) This shape has 4 sides. All the angles are right angled.
All of the sides are the same length.

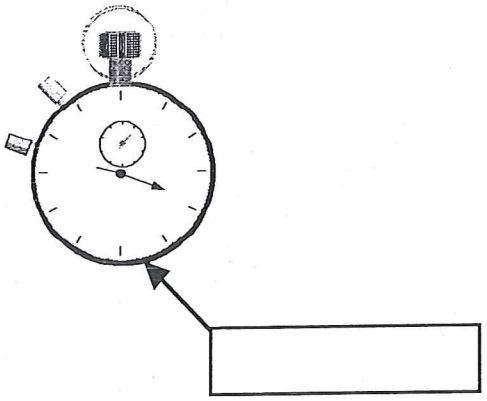
(d) This shape has 4 sides, all at right angles.
Its opposite sides are equal.

3. Name the face or shape the arrow is pointing at.

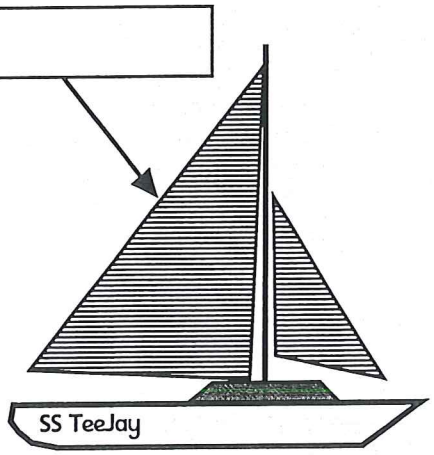
(a)



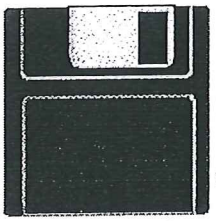
(b)



(c)



(d)



Homework Sheets

3D No. 17a

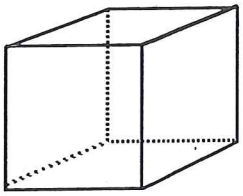
name .....

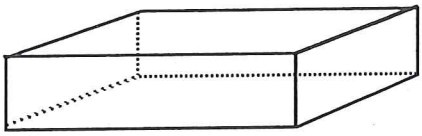
date due back .....

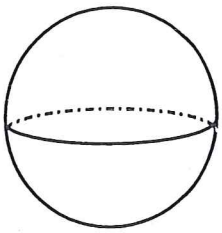
signed ..... score .....

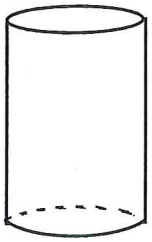
1. Name the shapes drawn below. Use these words to help you.

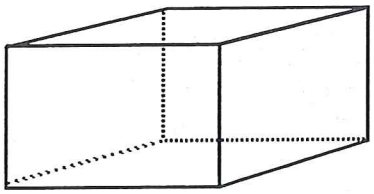
Cube	Cuboid	Cylinder	Sphere	Cone

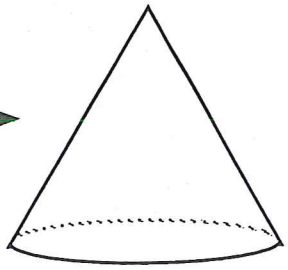
(a) This is a ☐ 

(b) This is a ☐ 

(c) This is a ☐ 

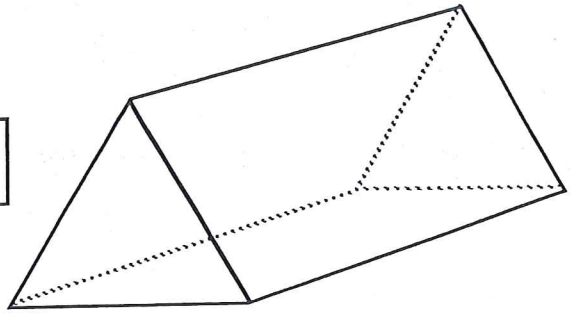
(d) This is a ☐ 

(e) This is a ☐ 

(f) This is a ☐ 

2. Fill in the missing words and numbers.

(a) This shape is a ☐



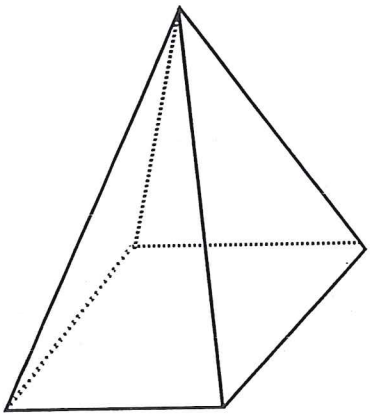
It is made with ☐ rectangles and ☐ triangles (fill in the number of each).

It has ☐ edges.

It has ☐ corners.

It has ☐ faces.

(b) This shape is a ☐



It is made with ☐ squares and ☐ triangles (fill in the number of each).

It has ☐ corners.

It has ☐ edges.

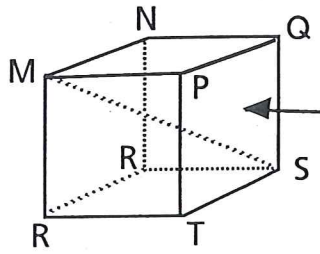
It has ☐ faces.

Homework Sheets

3D No. 13

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

1. (a)

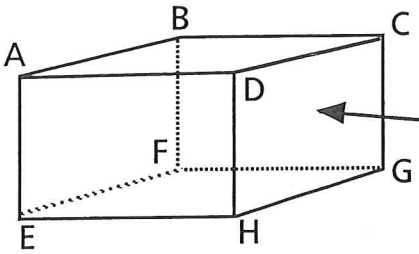


This shape is a CUBE.

This face is a SQUARE.

The line joining [ ] to [ ] is a space diagonal.

(b)

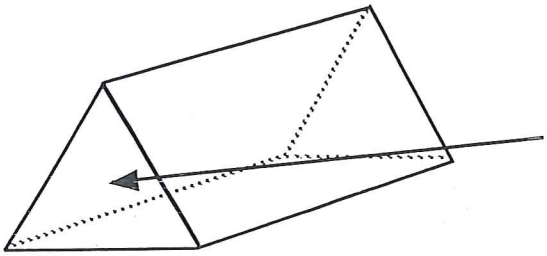


This shape is a [ ] .

This face is a [ ] .

The line joining [E] to [ ] is a space diagonal.

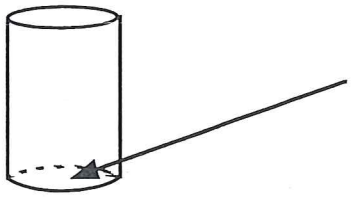
(c)



This shape is called a [ ] .

This face is a [ ] .

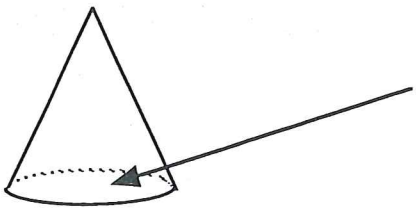
(d)



This shape is called a [ ] .

This face is a [ ] .

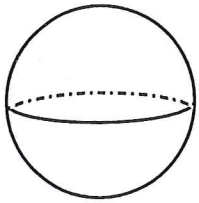
(e)



This shape is called a [ ] .

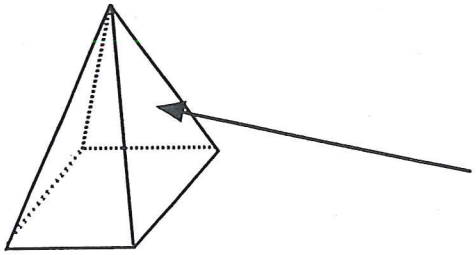
This face is a [ ] .

(f)



This shape is called a [ ] .

(g)



This shape is called a [ ] .

This face is a [ ] .

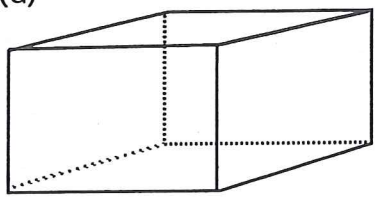
Homework Sheets

Triangles No. 11

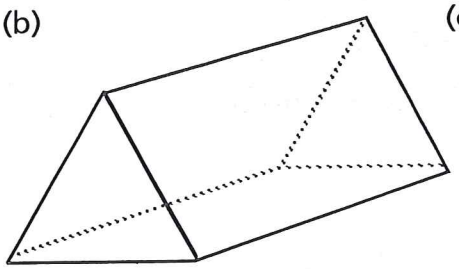
name .....
date due back .....
signed ..... score .....

1. Shade in any **triangular faces** in the following objects.

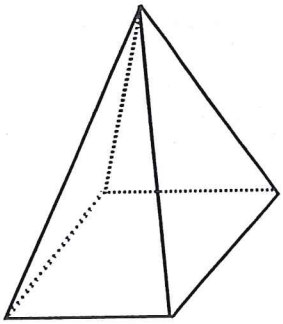
(a)



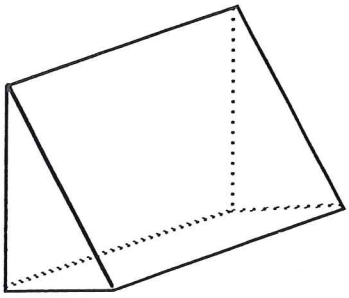
(b)



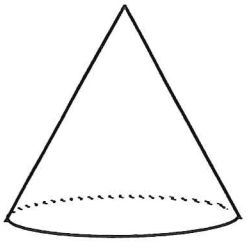
(c)



(d)



(e)

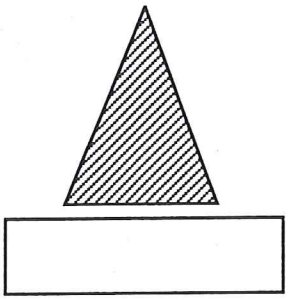


Remember:–

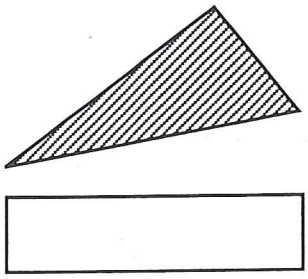
Isosceles triangle	– 2 sides equal, 2 angles equal.
Equilateral triangle	– 3 sides equal, 3 angles equal.
Right angled triangle	– has 1 right angle.

2. What kind of triangles are these ?

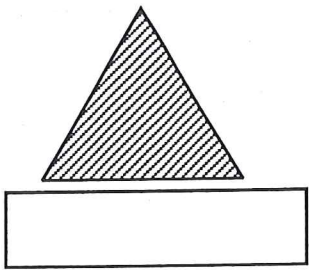
(a)



(b)



(c)



3. (a) An isosceles triangle has ☐ line of symmetry.

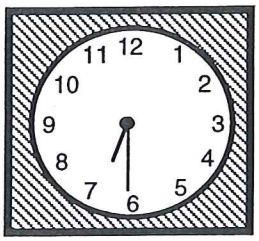
(b) An equilateral triangle has ☐ lines of symmetry.

Homework Sheets
All About The Circle No 8a

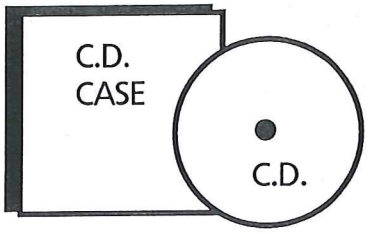
name .....
date due back .....
signed ..... score .....

1. Shade in any circular parts of the objects shown below.

(a)

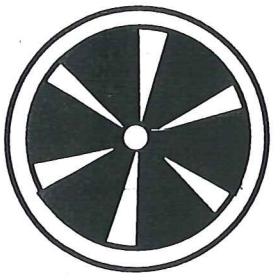


(b)



(c)

(d)



Wheel trim

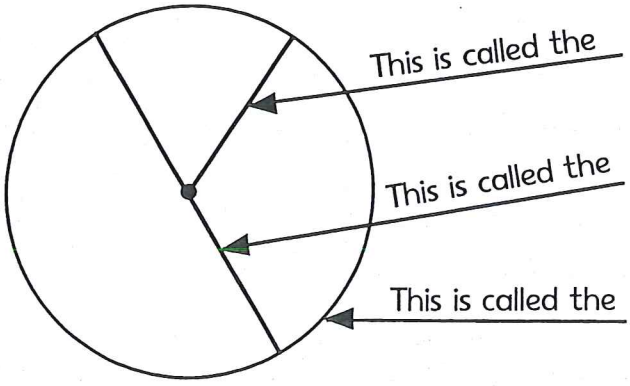
(e)

2. Describe two ways you could draw a circle, in your own words.

(a) One way to draw a circle is to :–

(b) Another way to draw a circle is to :–

3. Fill in the boxes to name the parts of a circle.



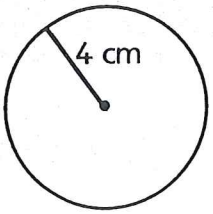
(a) R

(b)

(c)

4. Complete the sentences below.

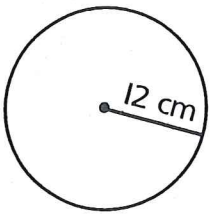
(a)



The radius is ☐ cm.

The diameter must be ☐ cm.

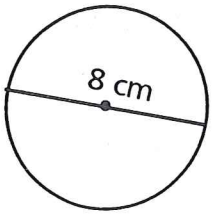
(b)



The radius is ☐ cm.

The diameter must be ☐ cm.

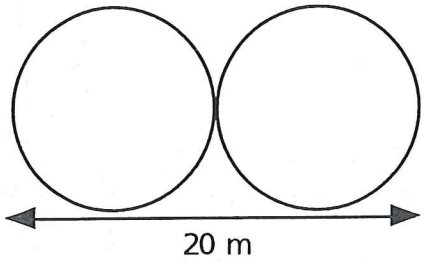
(c)



The diameter is ☐ cm.

The radius must be ☐ cm.

(d)

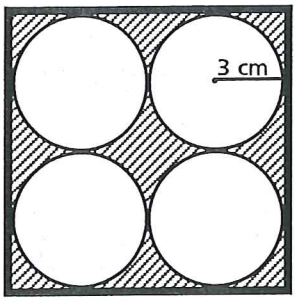


Two circles are the same size.

The diameter of each circle is ☐ m.

The radius of each circle is ☐ m.

(e)



Four identical circles fit exactly into a square.
The radius of each circle is 3 cm.

The length of each side of the square must be ☐ cm.

Homework Sheets

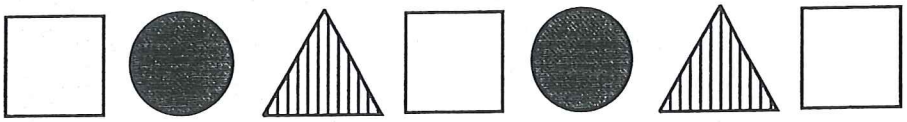
Patterns 2 No. 12a

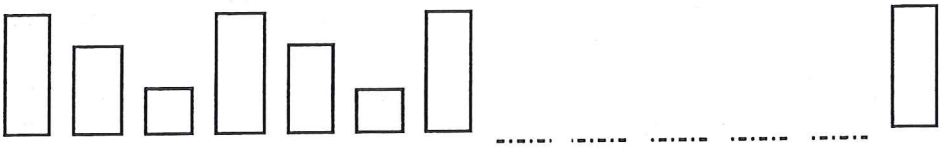
name .....

date due back .....

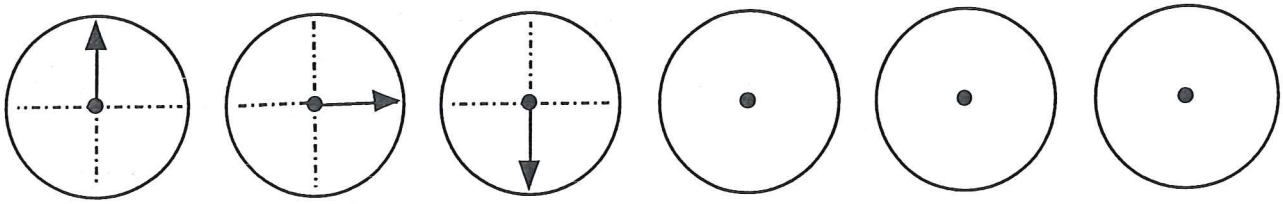
signed ..... score .....

1. Make neat drawings to show how each pattern continues :-

(a)  ....

(b)  ....

(c)  ....

(d) 

2. Fill in the missing numbers in each of these :-

(a) 2, 4, 6, 8, ☐, ☐, ☐

(b) 3, 6, 9, 12, ☐, ☐, ☐

(c) 4, 8, 12, 16, ☐, ☐, ☐

(d) 5, 10, 15, 20, ☐, ☐, ☐

(e) 6, 12, 18, 24, ☐, ☐, ☐

(f) 10, 20, 30, 40, ☐, ☐, ☐

(g) 5, 7, 9, 11, ☐, ☐, ☐

(h) 8, 11, 14, 17, ☐, ☐, ☐

(i) 30, 28, 26, 24, ☐, ☐, ☐

(j) 50, 46, 42, 38, ☐, ☐, ☐

3. Some numbers have been left out here. Fill in the missing numbers.

(a) 3, 6, 9, ☐, 15, 18, ☐, 24

(b) 4, 8, 12, ☐, 20, ☐, 28, ☐

(c) 2, 5, 8, 11, ☐, 17, ☐, 23

(d) 7, 11, 15, ☐, 23, ☐, 31, ☐

(e) 2, 7, 12, ☐, ☐, 27, ☐, 37

(f) 40, 37, 34, 31, ☐, 25, ☐

1

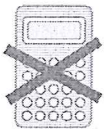
Simple sequences

1 Counting on and back in 6s

Extend each sequence by counting on or back in 6s:

1	6	12	18	.....	.....	.....	.....
2	21	27	33	.....	.....	.....	.....
3	50	56	.....	.....	.....	.....	.....
4	60	54	48	.....	.....	.....	.....
5	100	94	.....	.....	.....	.....	.....
6	52	46	.....	.....	.....	.....	.....
7	27	21	15	.....	.....	−3	.....
8	20	14	.....	.....	.....	.....	.....

2 Counting on and back in 9s



Extend each sequence by counting on or back in 9s:

1	9	18	27	.....	.....	.....	.....
2	29	38	.....	.....	.....	.....	.....
3	63	54	.....	.....	.....	.....	.....
4	65	56	.....	.....	.....	.....	.....
5	27	18	.....	.....	−9	.....	.....
6	30	21	.....	.....	−6	.....	.....
7	50	41	.....	.....	.....	.....	.....
8	6	−3	.....	.....	.....	.....	.....