

First Name	
Last Name	
Date	
Total Marks	/ 100 marks

MathsMadeEasy

GCSE Mathematics
Non-Calculator
Foundation Tier
Free Practice Set 3
1 hour 30 minutes



Answers at:

<http://www.mathsmadeeasy.co.uk/gcsemathspapers-free.htm>

Instructions

Write your name and other details in the boxes above.

Answer all the questions

Take π to be 3.142

Information

Marks are shown in brackets for each question (2)

Calculators may not be used

Advice

Don't spend too long on one question

Show all your working in calculations for full marks

You will get marks for method even if your answer is incorrect

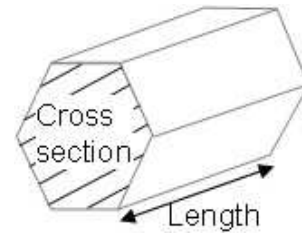
Leave a question until later if you cannot answer it

Materials needed for examination

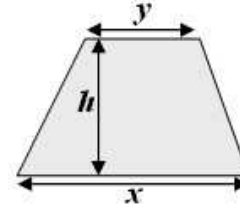
Ruler marked in centimetres and millimetres,
protractor, compasses, pen, pencil, rubber
Tracing paper may be used

Formulae Sheet

Volume of prism = area of cross section \times length



Area of trapezium = $\frac{1}{2}(x + y)h$



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Dedicated to my Father, Cyril Weeks (1928-2008)

Question	Type of question	Marks
1	Numbers - THTU	3
2	Number patterns	4
3	Areas, volumes	4
4	Line of Symmetry, rotational symmetry	2
5	Number, HCF, prime	4
6	Estimation	3
7	Formula substitution	4
8	Front Elevation, plan	4
9	Measurements & imperial units	3
10	Number operations	7
11	Fraction, %, decimals	7
12	Enlargement, area	4
13	Co-ordinates	3
14	Probability	4
15	Calculations ,percentages, VAT	7
16	Two way table	3
17	Multiplication	2
18	Graphs	5
19	Transformation	3
20	Algebra – expression, equation	9
21	Angles	4
22	Ratio	2
23	Pie Chart	4
24	Mean, Median, Stem Leaf	5

Answer ALL questions.

**Write your answers in the spaces provided.
Do NOT use a Calculator**

You must write down all stages in your working.

1. a) Write **7753** correct to the nearest hundred.

.....
(1)

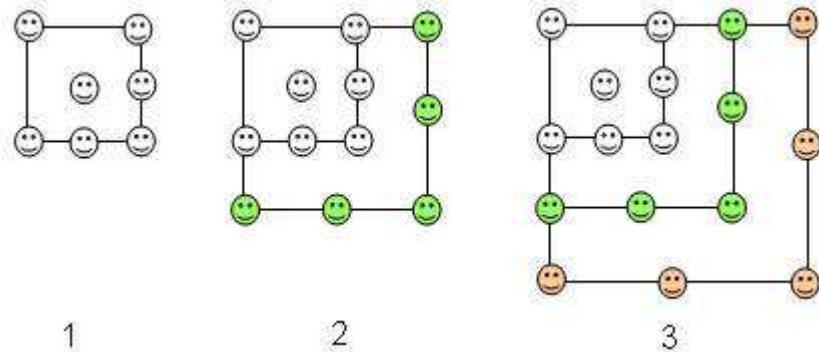
b) What is **seven thousand and forty nine** in figures.

.....
(1)

c) What is the value of 8 in 4827.

.....
(1)

2. The first three parts of a pattern of mini faces is shown.



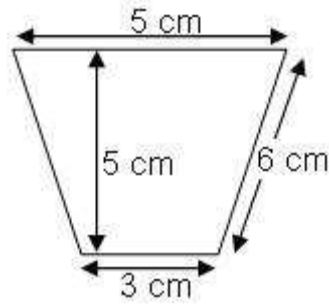
a) How many faces will be in the fourth and fifth part?

4th 5th (2)

b) What is the expression in terms of n , for the total in pattern number n .

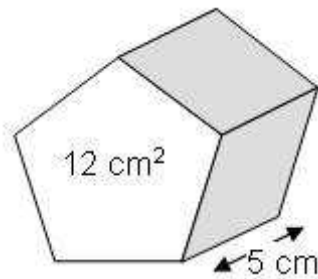
.....
(2)

3. a) Work out the area of the trapezium shown below:



..... (2)

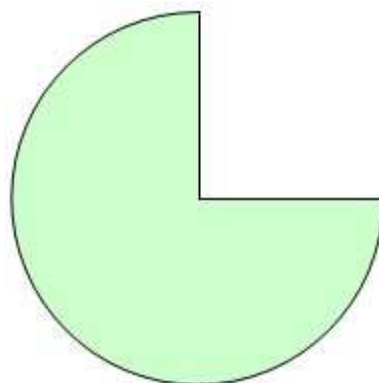
- b) Work out the volume of the prism shown below



..... (2)

4. a) Draw a line of symmetry on the shape below

(1)



- b) What is the order of rotational symmetry for the shape

..... (1)

5. From the list of numbers below:

12	30	42	54
----	----	----	----

a) What is the highest common factor

.....
(1)

b) Which one is a multiple of 9

.....
(1)

c) Write down three prime numbers between 12 and 30

.....
(2)

6. Estimate $\frac{14.9 \times 99}{0.52}$

.....
(3)

7. The formula $a = \frac{(v-u)}{t}$ gives the acceleration a of an object

Find the value of a when:

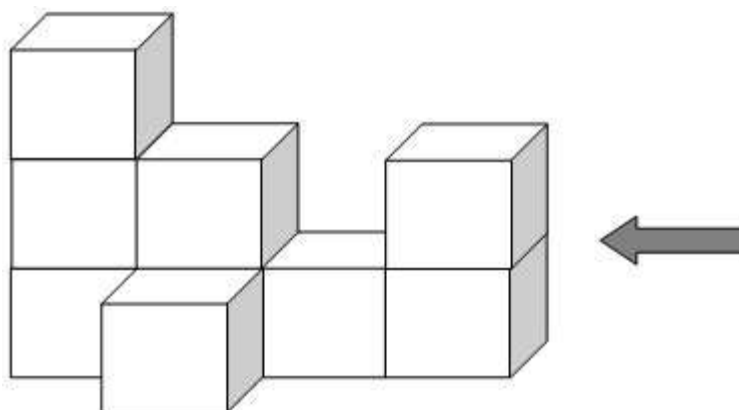
a) $v = 32, u = 8$ and $t = 3$

.....
(2)

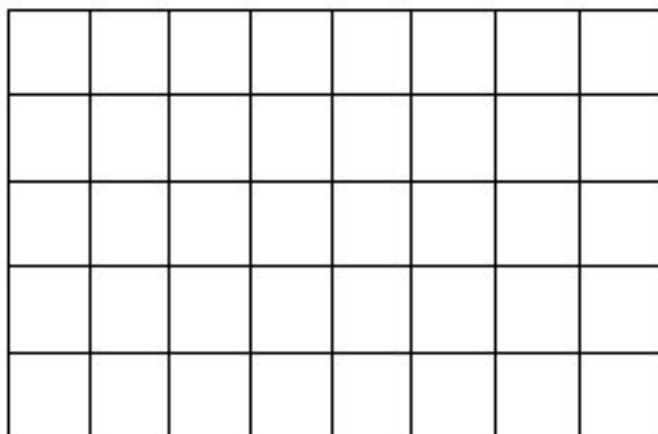
b) if $a = 12, t = 2$ and $v = 30$ find u

.....
(2)

8. The diagram shows some identical cubes arranged to make a solid object.

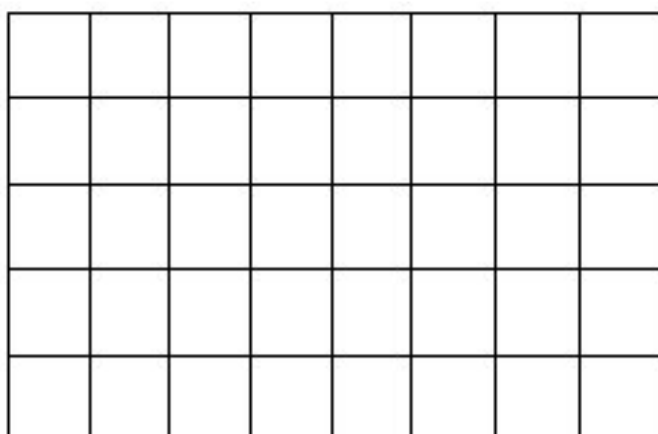


a) On the grid shown below draw the side elevation of the solid object as seen from the direction of the arrow.



(2)

b) Draw a plan of the solid object on the grid below.



(2)

9. For the following, what is the metric unit

a) The weight of an apple	100 grams.....
b) The height of the Eiffel Tower	324
c) The volume of a bucket	8
d) The distance between London and Manchester	304

(3)

10. What is

a) -8×-3

.....
(1)

b) $6 \times 3 - 2$

.....
(1)

c) $8 + 6 \div (4 + 2)$

.....
(1)

d) $1.46 + 1.75$

.....
(1)

e) Arrange these decimals from *smallest to largest*

2.5 2.55 2.505 2.05

.....
(1)

f) $234 \div 9.$

.....
(2)

11. What is:

a) $\frac{1}{3} + \frac{4}{5}$

.....
(2)

b) $\frac{2}{3} \times \frac{3}{5}$

.....
(2)

c) What is 70% of 90

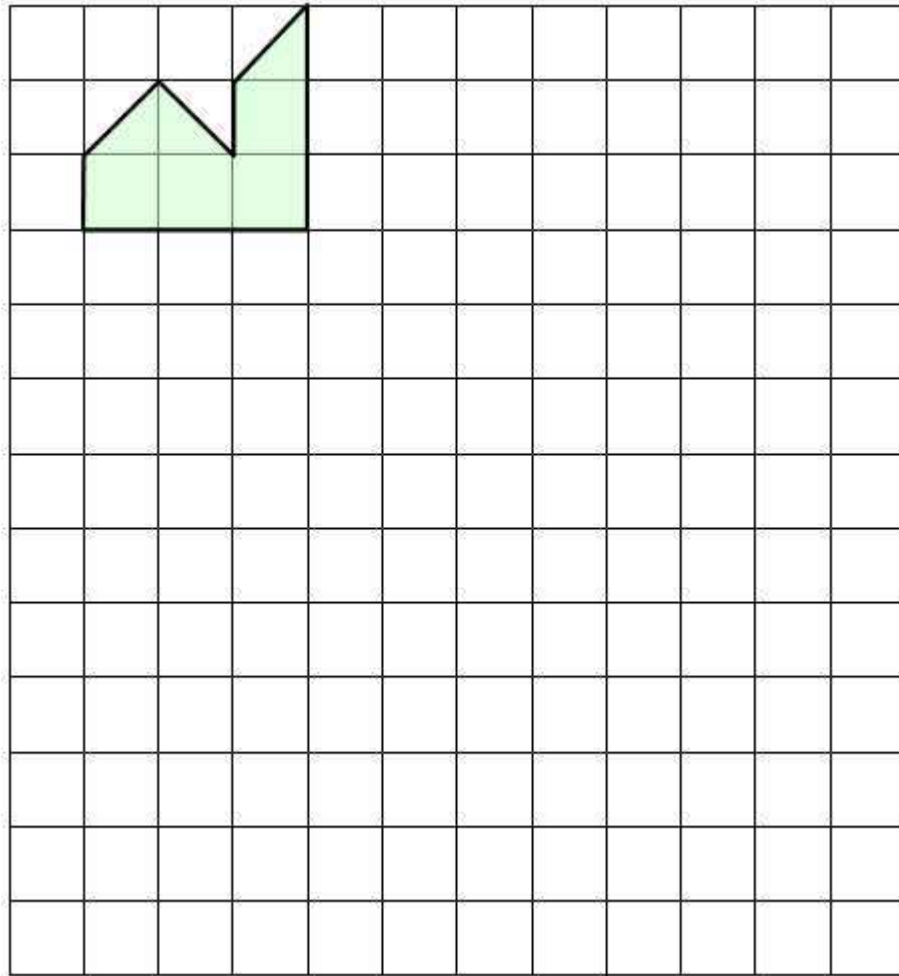
.....
(1)

d) Change these numbers into percentages and arrange them from *smallest to largest*

0.35 3/12 2/5 0.09

.....
(2)

- 12 a) Enlarge the shape shown on the centimetre grid below by a scale factor of 3

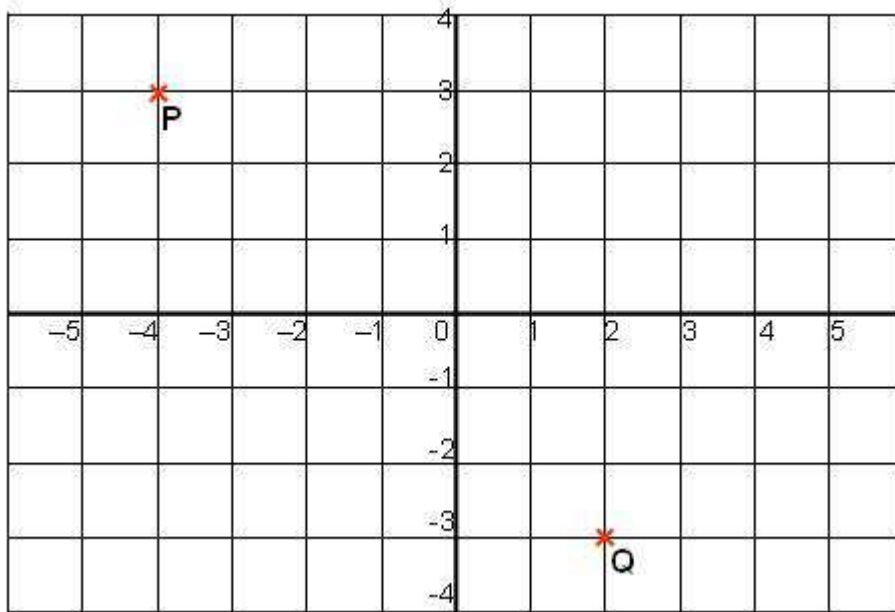


(2)

- b) What is the *AREA* of the enlarged shade you have drawn?

.....
(2)

13.



a) What are the co-ordinates of point P

(.....,)
(1)

b) What are the co-ordinates of point Q

(.....,)
(1)

c) Draw a line between P and Q. Label the midpoint M
What are the co-ordinates of the point M?

(.....,)
(1)

14. Jane turned a spinner marked with the numbers 1 to 8

a) As a *fraction* what is the probability she got the number 4 or more

.....
(1)

b) Mark the probability scale to show the probability that the spinner will land on the number 5 or more



(1)

c) As a *percentage* what is the probability that the spinner will land on the number 7 or more

.....
(1)

d) The probability that the spinner will land on a six is 0.12.
What is the probability that it will NOT land on a six.

.....
(1)

15. Matthew bought some mp3 downloads
Each download costs 60 pence each
He spent £7.20.

a) How many downloads did he buy?

.....
(2)

b) Matthew found he could get 25% off the £7.20 he paid for his downloads.
How much would he pay with the 25% off?

£.....
(2)

c) Matthew bought an iPod-touch for £210
VAT on the iPod-touch is 15 % on top of this

How much does the iPod-touch cost including VAT?

£.....
(2)

d) Stuart and Laura also bought some downloads.
Laura bought y downloads
Stuart bought five times as many as Laura

Write an expression in terms of y , for the total number of downloads Laura and Stuart bought

.....
(1)

16. Some children were asked to pick their favourite pet from a choice of dog, cat, rabbit, mouse, guinea pig or lizard. Some of the results are show.

	Boys	Girls	Total
Dog	6		21
Cat	2	8	10
Mouse	7	2	9
Rabbit	3	6	
Lizard		2	23
Guinea Pig	2		8
Total	41	39	

Fill in the missing values

(3)

17. What is 243×37

.....
(2)

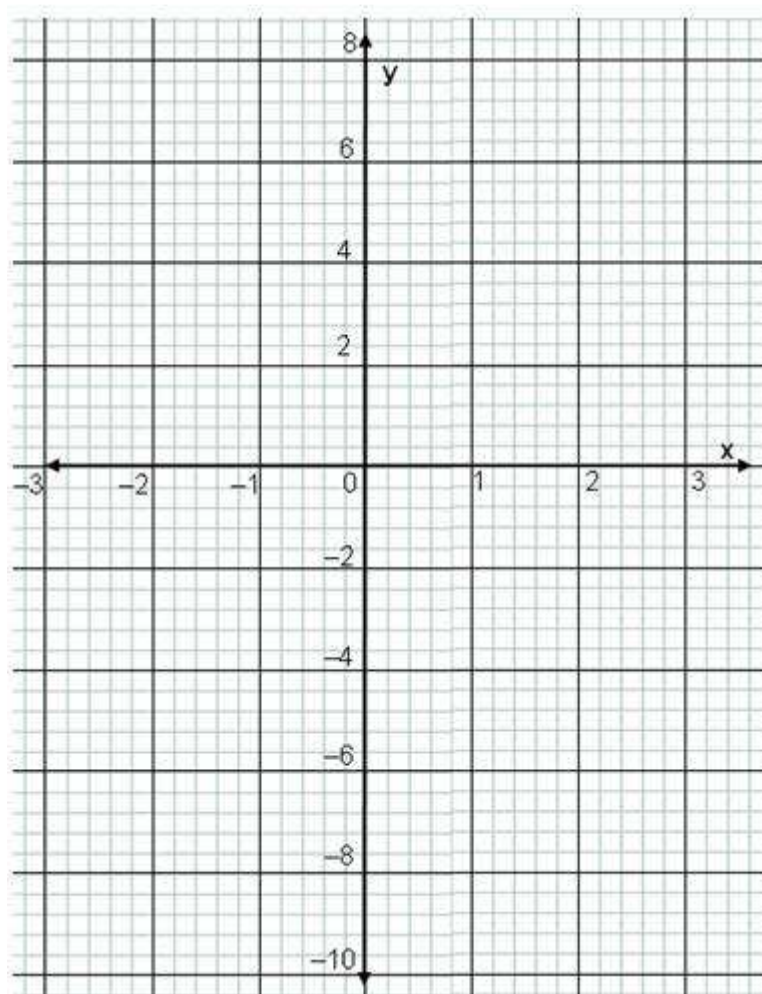
18.

- a) Complete the table of values for $y = -2x + 1$ below.
Some of the working out has been done for you

x	-3	-2	-1	0	1	2	3
-2x	$-2 \times -3 =$ +6		$-2 \times -1 =$ +2		$-2 \times +1 =$ -2		
+1	+1	+1	+1	+1	+1	+1	+1
= y	7		3		-1		

(2)

- b) Plot the graph for $y = -2x + 1$

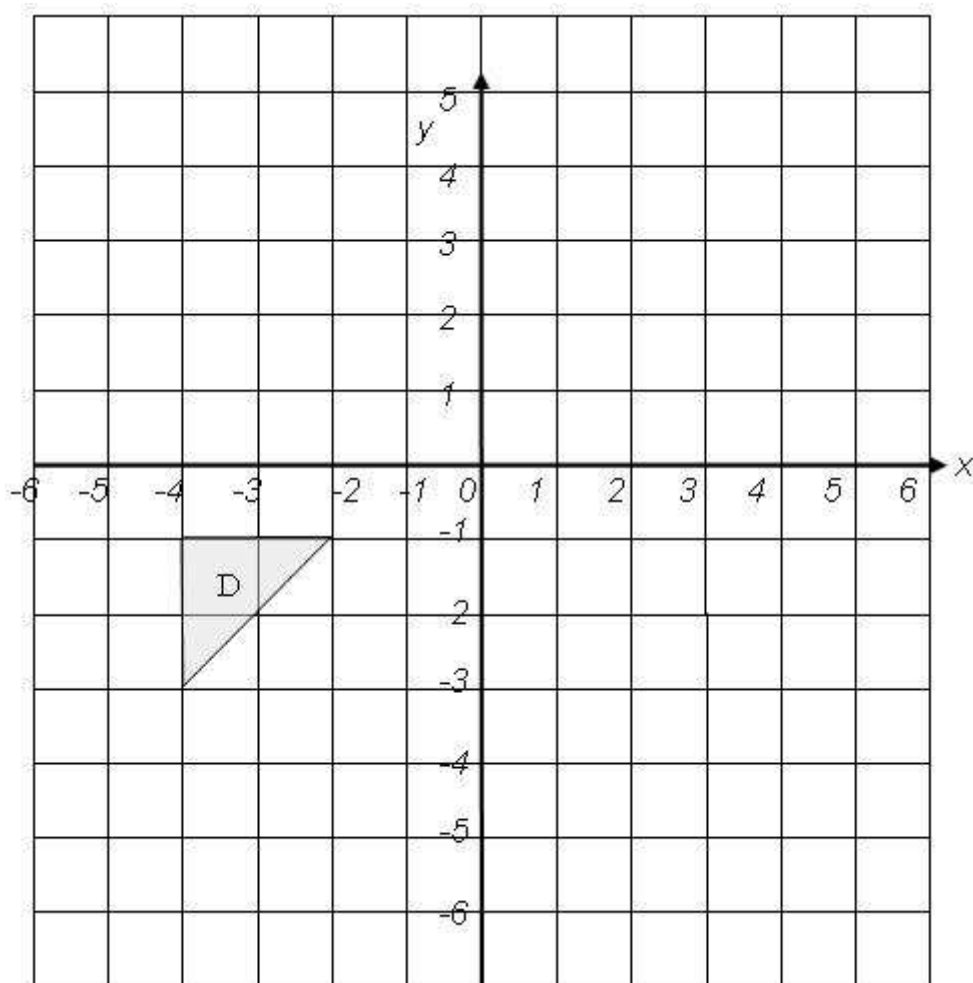


(2)

- c) What is the gradient of this line graph

.....
(1)

19.



Triangle D is shown above.

- a) Reflect the triangle D in the x-axis
Label the triangle E

(1)

- b) Rotate the triangle D by 180 degrees centre O
Label the rotated triangle F

(2)

20. a) Simplify:

i) $x + 3 - 2x + 3x$

.....
(1)

ii) $8y \times 3y^2$

.....
(1)

b) Solve
 $6x - 14 = 10$

$x =$
(1)

c) Expand and simplify:
 $3(x + 4y) + 2(5x - 3y)$

.....
(2)

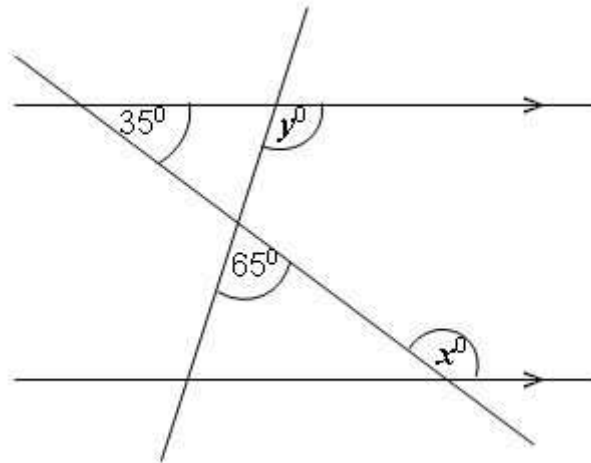
d) Solve
 $9(x + 2) = 7x + 23$

$x =$
(2)

e) $-3 < x \leq 2$
What are the possible values for x?

$x =$
(2)

21. The diagram shows two parallel lines and two other lines which intersect



a) Work out the size of angle x

$x = \dots\dots\dots^\circ$ (1)

b) Explain how you got your answer

..... (1)

c) Work out the size of angle y

$y = \dots\dots\dots^\circ$ (1)

d) Explain how you got your answer

..... (1)

22. Chris, Tom and Natasha shared out £480 between them in the ratio 1 : 3 : 4

How much did they each get.

Chris £.....

Tom £

Natasha £.....

(2)

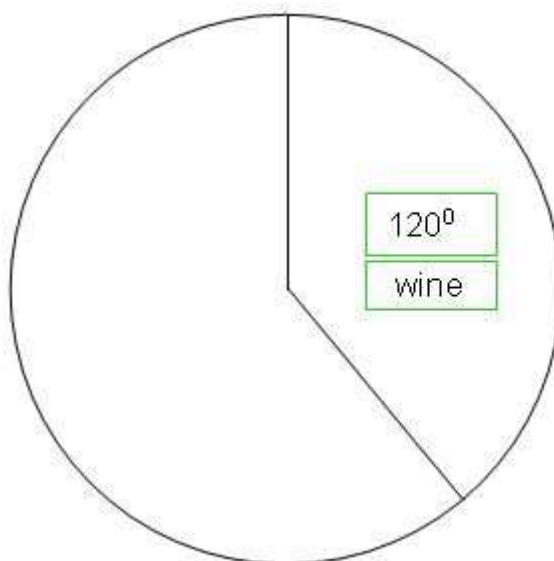
23. A shop recorded the types of drinks bought by 90 customers for Christmas

Drink	Frequency	angle
Wine	30	120
Beer	35	
Spirits		40
Champagne	15	

a) Complete the table above

(2)

b) Draw an accurate pie chart to show this information. The first drink has been done for you.



(2)

24. a) What is the median for these numbers 4 1 3 5 6

.....
(1)

b) What is the mean for these numbers 2 3 4 4 7

.....
(2)

c) Hosanna counted the number of sweets in 30 sweet packets. She got the following results.

14	18	25	26	33	43	28	12
41	42	48	27	38	45	23	13
8	11	14	20	43	19	33	
32	32	36	36	8	9	27	

Draw a stem and leaf diagram to show these results with this Key: 4 | 1 = 41 letters

(2)

TOTAL FOR PAPER: 100 MARKS
END