Please check the examination details below before entering your candidate information

Candidate surname

Centre Number

Candidate Number

Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Morning (Time: 1 hour 30 minutes)

Paper reference **1MA1/1F**

Mathematics

PAPER 1 (Non-Calculator)

Foundation Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB or B pencil, eraser, Formulae Sheet (enclosed). Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B).
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**

Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P76402A

Y:1/1/1/1/

P 7 6 4 0 2 A 0 1 2 0

Pearson

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Simplify $e + e + e + e + e$

5e

5e

(Total for Question 1 is 1 mark)

2 Write $\frac{3}{4}$ as a decimal.

$\frac{1}{4} = 0.25$ $\frac{3}{4} = 0.75$

0.75

(Total for Question 2 is 1 mark)

3 Change 60 millimetres into centimetres.

6

6 centimetres

(Total for Question 3 is 1 mark)

4 Write down a multiple of 8 that is between 25 and 35

8 32
16
24

32

(Total for Question 4 is 1 mark)

5 Angle A is 53°

What type of angle is angle A?

Acute

(Total for Question 5 is 1 mark)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

6 Samina works in a shop that sells pens.

The table shows the number of blue pens and the number of red pens Samina sold in each of three months.

Month	Blue pens	Red pens
April	33	20
May	40	14
June	27	15

(a) Work out the total number of blue pens and red pens Samina sold in June.

27 + 15 = 30 + 12 = 42

42

(1)

Samina says,

"In these three months, in total, I sold more than twice as many blue pens as red pens."

(b) Is Samina correct?
You must show how you get your answer.

33, 40, 27 → 73 + 27 = 100

20, 14, 15 → 49

Its evident that Samin sold more than twice as many blue pens than red. Blue = 100 Red = 49

(3)

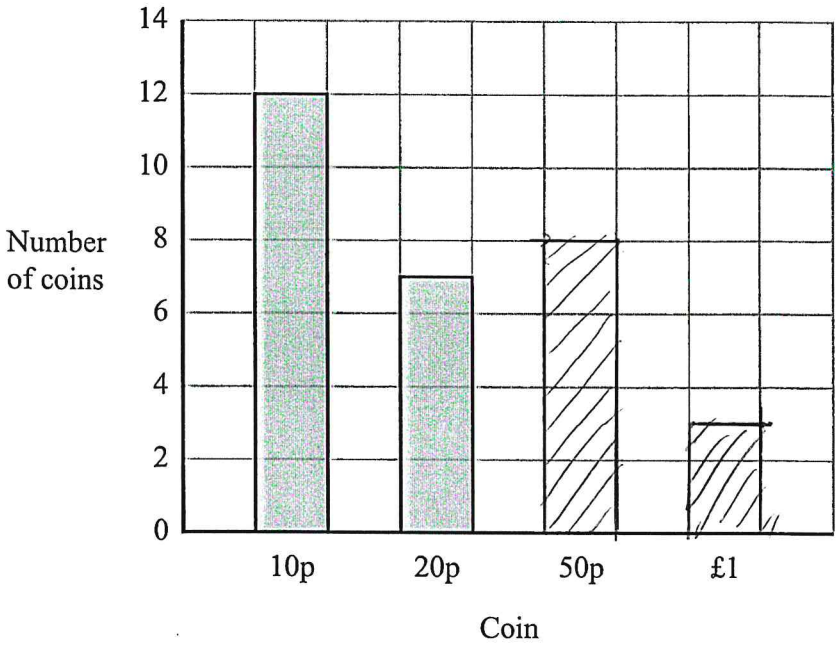
(Total for Question 6 is 4 marks)

Turn over

P 7 6 4 0 2 A 0 3 2 0

7 There are only 10p coins, 20p coins, 50p coins and £1 coins in a bag.

The bar chart shows information about the number of 10p coins and the number of 20p coins in the bag.



There are eight 50p coins in the bag.
There are three £1 coins in the bag.

(a) Use this information to complete the bar chart.

(2)

(b) Show that the total amount of money in the bag is less than £10

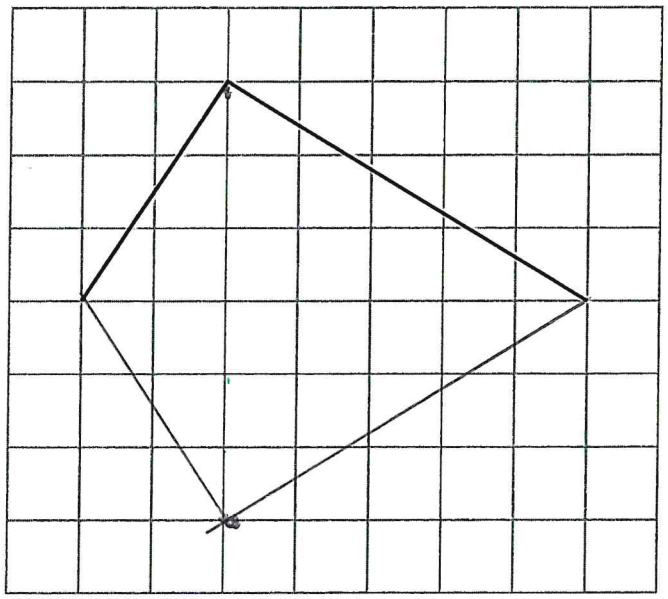
0.10 × 12 } 1.20
0.20 × 7 } 1.40 } 2.60
0.50 × 8 } 4 } 7
1 × 3 } 3 }
} £9.60
↑ Total

The total amount of money is £9.60
Which is less than £10

(3)

(Total for Question 7 is 5 marks)

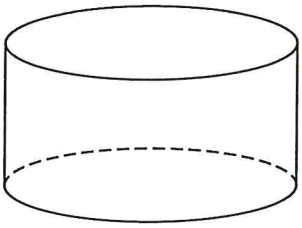
8 The diagram shows two sides of a kite.



(a) On the grid, complete the kite.

(1)

(b) What is the mathematical name of this solid shape?



cylinder

(1)

(Total for Question 8 is 2 marks)

9 Greg is x years old.

Greg is 5 years older than Katy.

(a) Write down an expression, in terms of x, for Katy's age.

$x+5$

$x+5$ 0

(1)

Carl is twice as old as Greg.

(b) Write down an expression, in terms of x, for Carl's age.

$2x$

$2x$ 1

(1)

(c) Solve $4y = 12$

$4y=12$

$\div 4 \quad \div 4$

$y=3$

$y =$ 3 1

(1)

(Total for Question 9 is 3 marks)

P 7 6 4 0 2 A 0 6 2 0

10 (a) Write 23 619 to the nearest 1000

2 3 6 1 9

24000

(1)

(b) Work out an estimate for the value of 5.9×98.1

$6 \times 100 = 600$

5.9×98.1

600

(2)

(Total for Question 10 is 3 marks)

11 (a) Work out $\frac{5}{8} - \frac{1}{4}$

$\frac{5}{8} - \frac{2}{8} \quad \frac{3}{8}$

$\frac{3}{8}$

(2)

(b) Work out $\frac{2}{5}$ of 40

$\frac{2}{5} = 0.4 = 40\%$

work out 40% of 40

4, 8, 12, 16

16

(2)

(Total for Question 11 is 4 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

12 Here is part of a train timetable from Liverpool to Birmingham.

	A	B	C
Liverpool	08 07	08 47	09 07
Runcorn	08 25	09 03	09 26
Crewe	08 53	09 22	09 55
Stafford	09 11	09 51	10 14
Wolverhampton	09 30	–	10 31
Birmingham	09 50	10 34	10 50

(a) Which train should take the least time to go from Liverpool to Crewe?
You must show how you get your answer.

Liverpool: 8:07 | 8:47 | 9:07
Crewe: 8:53 | 9:22 | 9:55

A: ~~8 07~~ ~~853~~ ~~807~~ 46M
40M 8:47 8:53 46M

B: 13M 8:47 → 9:00 9:22 13+22= 35M

C: 3M 9:07 – 9:10 9:55 48M

B would be the least time taken.

3

(3)

Rose gets to the station in Wolverhampton at 09 25
She wants to catch the next train to Birmingham.

This train is delayed by 35 minutes.

(b) How many minutes does Rose have to wait for the train?

Rose Wolverhampton = ~~0.925~~ 9:25

Train = 9.30

Delayed 35M

Train 10:05

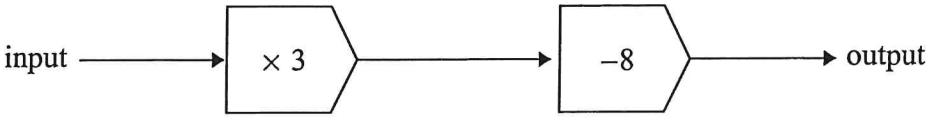
2

40 minutes

(2)

(Total for Question 12 is 5 marks)

13 Here is a number machine.



(a) Find the output when the input is 6

$6 \times 3 - 8 =$

$18 - 8 = 10$

10

(1)

(b) Find the input when the output is −11

$-11 + 8 \div 3$

$-3 \div 3 = -1$

-1

(2)

(Total for Question 13 is 3 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

14 A road has a length of 1.6 kilometres.

The road is shown on a map with a scale of 1 : 20 000

Work out the length, in centimetres, of this road on the map.

20000
+ 12000
32000

Road = 1.6 KM

1 : 20 000

20,000 ÷ 5
4000
5 | 20000

0.6 : 0.2 = 4000
0.4 = 8000
0.6 = 12000

0

32,000 centimetres

(Total for Question 14 is 3 marks)

15 Work out 1.35 × 48

1.35 × 48

1.35
× .48
10.80
2 4
5 4.00
1

1 × 48 = 48

0.35 × 48 =

64800
64.8

4.8
4.8
4.8
12 + 2.4
14.4

1.35 × 48 =

48.0
+ 14.4
62.4
1

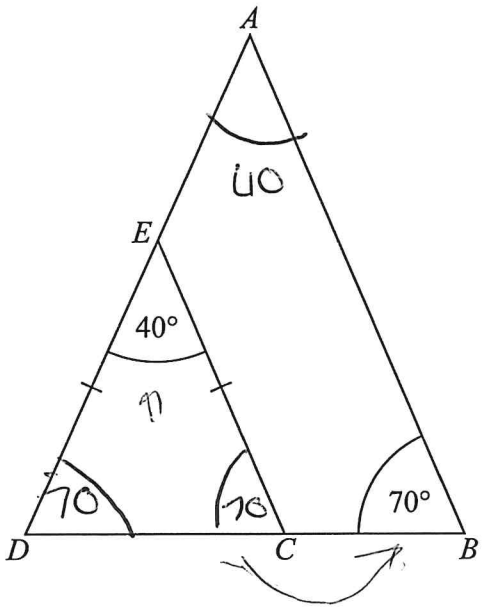
62.4

3

64.8

(Total for Question 15 is 3 marks)

16



AED and *BCD* are straight lines.
ED = *EC*

Show that *EC* is parallel to *AB*.
Give a reason for each stage of your working.

add up to

Angles in a triangle = 180 ✗

180 - 40 = 140

140 ÷ 2 = 70

Bottom angles of an ~~iso~~ iscosoles are the same ✓

EC ~~is~~ is parallel to AB on the idea that they have the same exact angle amount on their line 2

(Total for Question 16 is 4 marks)

17 Sam wants to use this recipe to make 15 pancakes.

Ingredients for 10 pancakes
100 g flour
200 m*l* milk
40 g butter
2 eggs

Sam has

200 g flour
250 m*l* milk
70 g butter
5 eggs

Does Sam have enough flour, enough milk, enough butter and enough eggs to make 15 pancakes?
You must show all your working.

10 pancakes:
100g flour
200ml milk
40g butter
2eggs

15
150g flour
300ml milk
60g butter
3egg

5pancked
50g flour
100ml milk
20g butter
1 egg

How?

Sam has
200: flour
250: milk
70: butter
5: egg

200 | 150 ✓
250 | 300 ✗
70 | 60 ✓
5 | 3 ✓

Sam doesn't have enough milk

0

(Total for Question 17 is 3 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

18 Here are the heights, in cm, of 12 children.

146	135	142	150	138	149
152	146	137	154	147	144

Show this information in a stem and leaf diagram.

135	142	150
137	144	152
138	146	154
	146	
	147	
	149	

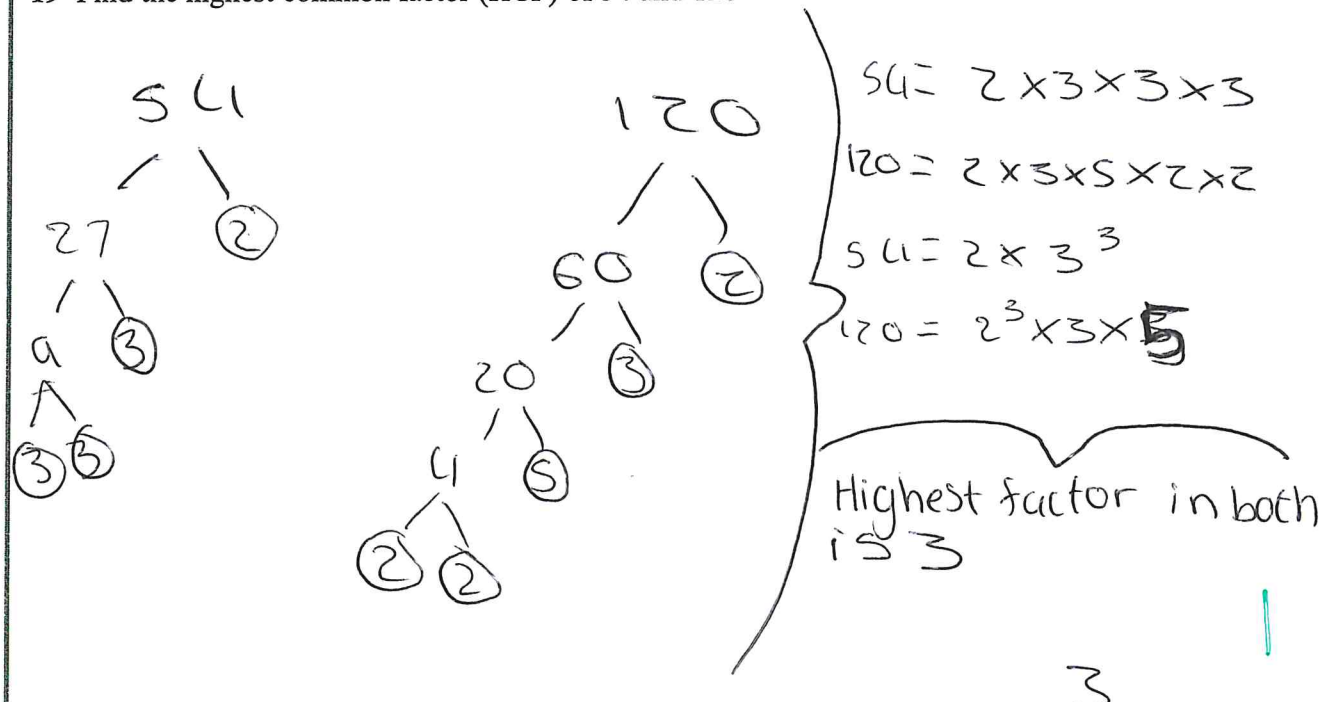
13	5, 7, 8
14	2, 4, 6, 6, 7, 9
15	0, 2, 4

Key: 13|2 = 132

3

(Total for Question 18 is 3 marks)

19 Find the highest common factor (HCF) of 54 and 120



3

(Total for Question 19 is 2 marks)

20 There are only red counters, white counters, blue counters and green counters in a bag.

Chris is going to take at random a counter from the bag.

The table shows the probability that he will take a red counter and the probability that he will take a white counter.

Colour	red	white	blue	green
Probability	0.3	0.1	0.4	0.2
Percentage	30	10	40	20

There are twice as many blue counters as there are green counters in the bag.

(a) Work out the probability that Chris will take a blue counter.

Percentage = $\frac{\%}{100}$

$0.3 + 0.1 = 0.4$

$1 - 0.4 = 0.6$

$0.2 \mid 0.4$

$1 = 100$

$0.3 + 0.1 + 0.2$

$0.6 + 0.4 = 1$

$\frac{40}{100}$

(3)

There are 45 red counters in the bag.

(b) Work out the total number of counters in the bag.

45 Red counters

÷ 3

$0.1 = 15$

$45 : 15 : 60 : 30$

150

(2)

(Total for Question 20 is 5 marks)

21 (a) Complete the table of values for $y = x^2 + x - 4$

x	–3	–2	–1	0	1	2
y	2	-2	-4	-4	-2	2

-2x-2

4+-2

-2+4=2-4=-2

0x0+0-4

1x1+1-4

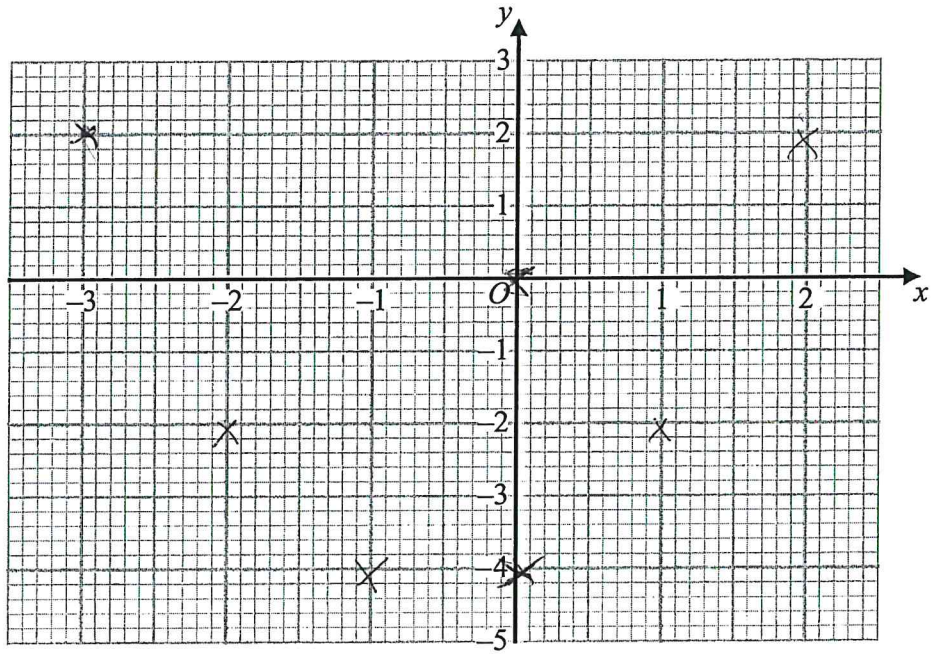
2 -4

2^2+2-4

6-4=2

(2) 2

(b) On the grid, draw the graph of $y = x^2 + x - 4$ for values of x from –3 to 2



(2) 1

(c) Write down the coordinates of the turning point of the graph of $y = x^2 + x - 4$

it switches direction

at I-2(0 -4)

(0, -4)

(1) 0

(Total for Question 21 is 5 marks)

22 There are 280 chocolates in a box.
There are only dark chocolates, milk chocolates and white chocolates.

$\frac{1}{7}$ of the 280 chocolates are dark chocolates.

The number of milk chocolates : the number of white chocolates = 1 : 3

The number of white chocolates : the number of dark chocolates = n : 1

(a) Work out the value of n.
You must show all your working

M W
1 : 3

3+1+1+N=7
5+N=7
−5 −5
N=2.

280 = Box

D M W

$\frac{1}{7}$ are d

W : D
W : 1

M : D
1 : 1

Milk : W = 1 : 3

$\frac{1}{7}$ are dark

white has to be 5 but the M : W 1 : 3

W : d
2 : 1

$\frac{6}{7}$ are M+W

M : W : D
1 : 3 : N : 1

$n =$ 2

(5)

10 milk chocolates from the box are eaten.

(b) Does this affect your answer to part (a)?
Give a reason for your answer.

~~No, $\frac{1}{7}$ would still be dark regardless of it went to~~ yes, if 10 were eaten the amount in the box would differ changing the ratio:

(1)

(Total for Question 22 is 6 marks)

23 Work out $5.7 \times 10^2 + 9.8 \times 10^3$
Give your answer in standard form.

1.037×10

5.7×10^2

570

9.8×10^3

9800

9800
$+ \quad 570$
10370
1

1037.0×10^1
103.7×10^2
10.37×10^3
1.037×10^4 3

~~1.037×10^4~~ 1.037×10^4

(Total for Question 23 is 3 marks)

Extra space for question 22

$1 : 3$
$N : 1$

$1+3=4$ $\frac{4}{4}$

$1+3+1$ & $+N = \frac{7}{7}$

$\frac{4}{4}$ +

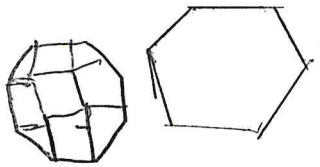
$1+3+1=5$

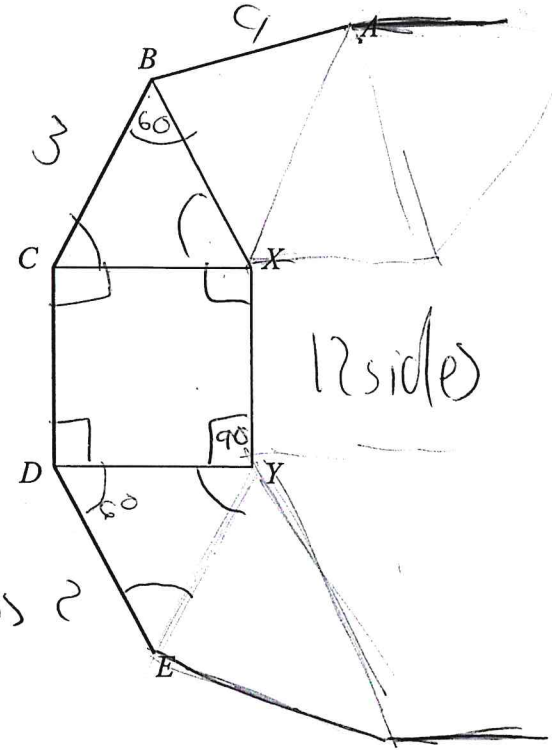
$5+w=7$
$-5 \quad -5$
$w=2$

$1+3=4+2=6$

$1+1+3=5+2=7$

24 *AB*, *BC*, *CD* and *DE* are four sides of a regular polygon with *n* sides.





Always

12 sides

4 flat lines

to most polygons ?
above 8 sides

BCX is an equilateral triangle.
CDYX is a square.

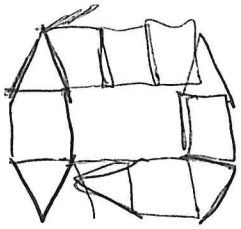
Work out the value of *n*.
You must show all your working.

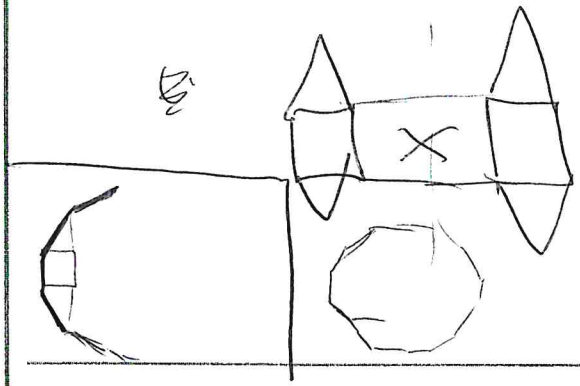
4 sides

BCX = triangle

CDYX is a square

180 ÷ 3

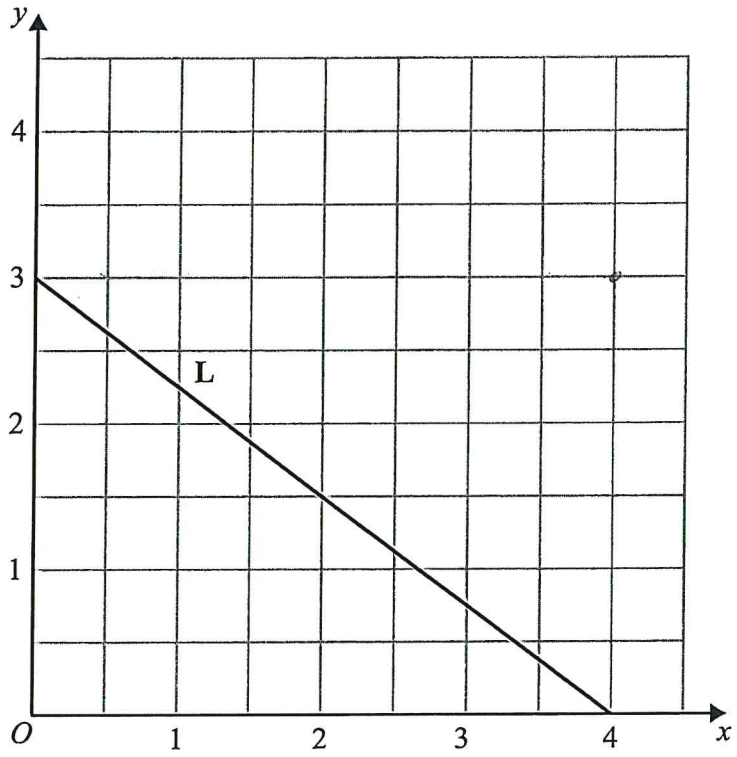




n = 12

(Total for Question 24 is 4 marks)

25 The straight line **L** is shown on the grid.



Find an equation for **L**.
Give your answer in the form $y = mx + c$

12 + -8

8

-6

-2

-8+12=4

gradient 3 x 4+c

M x 4+C

M x x + C

3x4+-8

4

(3x4+-8)

(Total for Question 25 is 3 marks)

Turn over for Question 26

26 $\mathbf{c} = \begin{pmatrix} 7 \\ 4 \end{pmatrix}$ $\mathbf{d} = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$

Work out $2\mathbf{c} + 3\mathbf{d}$

Give your answer as a column vector.

$\begin{pmatrix} 20 \\ 5 \end{pmatrix}$

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

2

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