

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)

MR Shergill

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

80

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 

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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

(Total for Question 1 is 1 mark)

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

~~0.75~~
0.75

0.75

(Total for Question 2 is 1 mark)

3 Change 60 millimetres into centimetres.

6 centimetres

(Total for Question 3 is 1 mark)

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

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)

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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.

$$\begin{array}{r} 27 \\ + 15 \\ \hline 42 \\ 1 \end{array}$$

$$\begin{array}{r} 42 \\ \hline \end{array} \quad (1)$$

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.

$$\begin{array}{r} 33 \\ 40 \\ 27 \\ \hline 100 \\ 1 \end{array}$$

100 bp

$$\begin{array}{r} 20 \\ 14 \\ 15 \\ \hline 49 \\ 1 \end{array}$$

49 rp

Yes she sold more than twice amounts of blue pens as red

$$49 \times 2 \quad \checkmark$$

$$\begin{array}{r} 49 \\ \times 2 \\ \hline 98 \\ 1 \end{array}$$

(3)

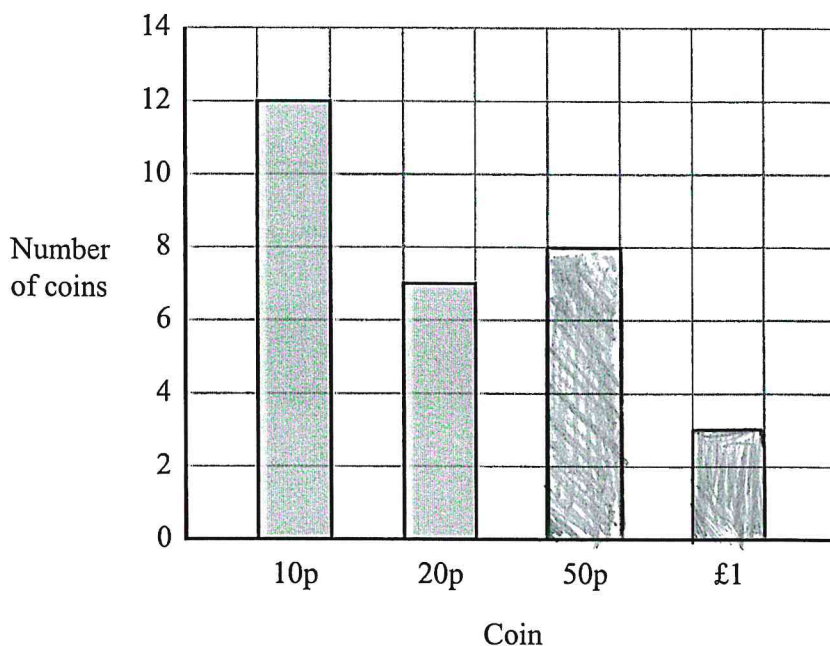
3

(Total for Question 6 is 4 marks)



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

$$12 \text{ } 10 \text{ p} = 1.20$$

$$7 \text{ } 20 \text{ p} = 1.40$$

$$8 \text{ } 50 \text{ p} = 4.00$$

$$3 \text{ } \text{£}1 = 3.00$$

$$\begin{array}{r} 1.20 \\ 1.40 \\ 4.00 \\ 3.00 \\ \hline 9.60 \end{array}$$

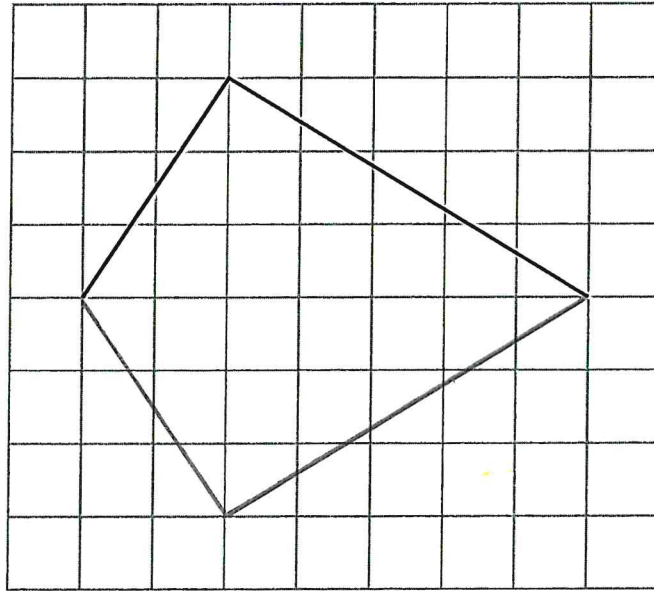
There is 9.60
Not 10.00

(3)

(Total for Question 7 is 5 marks)



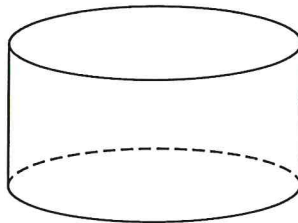
8 The diagram shows two sides of a kite.



(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)

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P 7 6 4 0 2 A 0 5 2 0

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.

~~2x + 5~~

$$x + 5$$

(1)

0

Carl is twice as old as Greg.

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

$$2x + 5$$

(1)

0

(c) Solve $4y = 12$

$$y = 3$$

(1)

1

(Total for Question 9 is 3 marks)



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10 (a) Write 23619 to the nearest 1000

24000

(1)

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

5.9 x 98.1

98
6

588
4

588

(2)

(Total for Question 10 is 3 marks)

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

~~5/8 - 1/4~~

$\frac{10}{8} - \frac{2}{8}$ ✓

8
8

(2)

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

5 $\overline{)40}$ ⁸

8 x 2 = 16

16

(2)

(Total for Question 11 is 4 marks)



P 7 6 4 0 2 A 0 7 2 0

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

Liverpool	0807	0847	0907
Runcorn	0825	0903	0926
Crewe	0853	0922	0955
Stafford	0911	0951	1014
Wolverhampton	0930	-	1031
Birmingham	0950	1034	1050

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

~~10:34~~
~~08:47~~
~~8~~

54
 Train 1 = ~~54~~ min
 Train 2 = ~~35~~ min
 35
 Train 3 = ~~52~~ min

08:07
 08:53

 54

08:47
 09:22

~~44~~
 35

~~09:107~~
~~09:261~~
 21

09:07
 09:55

 52

Train 2 will take the least time

3

(3)

Rose gets to the station in **Wolverhampton at 0925**.
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?

Train comes ~~at~~ 10:05
she is waiting for

10:05
 09:25

 1:20

1 hour and 20 min

+ 60
 20

 80

80 mins

0

80 minutes

(2)

(Total for Question 12 is 5 marks)



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13 Here is a number machine.



(a) Find the output when the input is 6

$$\begin{array}{r} 10 \\ \hline (1) \end{array}$$

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

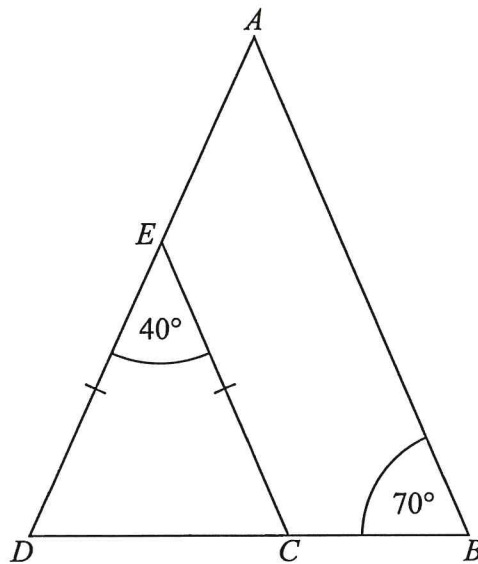
$$\begin{array}{r} -57 \\ \hline (2) \end{array}$$

(Total for Question 13 is 3 marks)

$$-11 - 8 = -19$$

$$\begin{array}{r} \times 19 \\ 3 \\ \hline 57 \\ 2 \end{array}$$



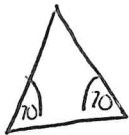


AED and BCD are straight lines.

$ED = EC$

Show that EC is parallel to AB .

Give a reason for each stage of your working.

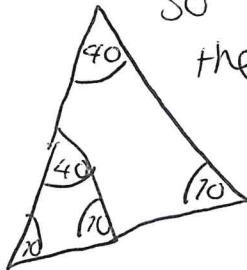


$$70 + 70 + x = 180^\circ$$

$$70 + 70 + 40 = 180^\circ$$

angles in a triangle = to 180°

so if $E = 40$ so does A because
the triangle has to add up to 180°



$$\angle D = 70^\circ$$

$$\angle C = 70^\circ$$

2

(Total for Question 16 is 4 marks)

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

<p>Ingredients for 10 pancakes</p> <p>100g flour 200ml milk 40g butter 2 eggs</p>
--

Sam has

- 200g flour
- 250ml milk
- 70g 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.

To make 5 pancakes half all measurements

50g flour $\times 3 = 150g$

100ml milk $\times 3 = \del{100} 300$ ml

20g butter $\times 3 = 60g$

1 egg $\times 3 = 3$

NO Sam needs 50ml more milk as she only has 250 and needs 300ml

3

(Total for Question 17 is 3 marks)



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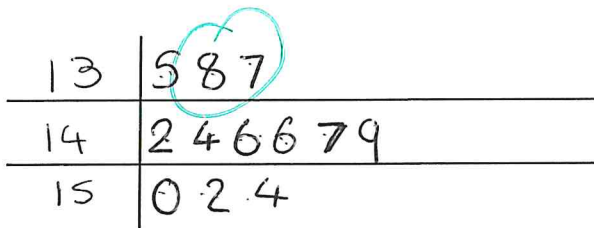
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18 Here are the heights, in cm, of 12 children.

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

Show this information in a stem and leaf diagram.

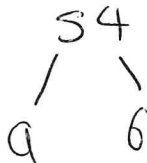


Key: ~~142 = 142~~
14 | 2 = 142 cm

2

(Total for Question 18 is 3 marks)

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



9 $\overline{)120}$

99
108

2

6

(Total for Question 19 is 2 marks)



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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

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.

$$0.3 + 0.1 + x + x = 1$$

0.3 r
 0.1 w
 x b
 x g

$$\frac{0.4}{0.6} \text{ or } \frac{60}{150}$$

~~0.4/0.6~~

(3)

There are 45 red counters in the bag.

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

~~45~~
~~0.4~~

~~45 red~~
~~15 white~~
~~60 blue~~
~~30 green~~

~~12 x 4 = 48~~

45 red
 15 white
 60 blue
 30 green
150
 1

150

(2)

(Total for Question 20 is 5 marks)

$$\frac{15}{3} = 5$$



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

x	-3	-2	-1	0	1	2
y	2	0	-4	-4	-12	-16

$-9 + 5$

$-3^2 +$

$4 - 10 - 4$

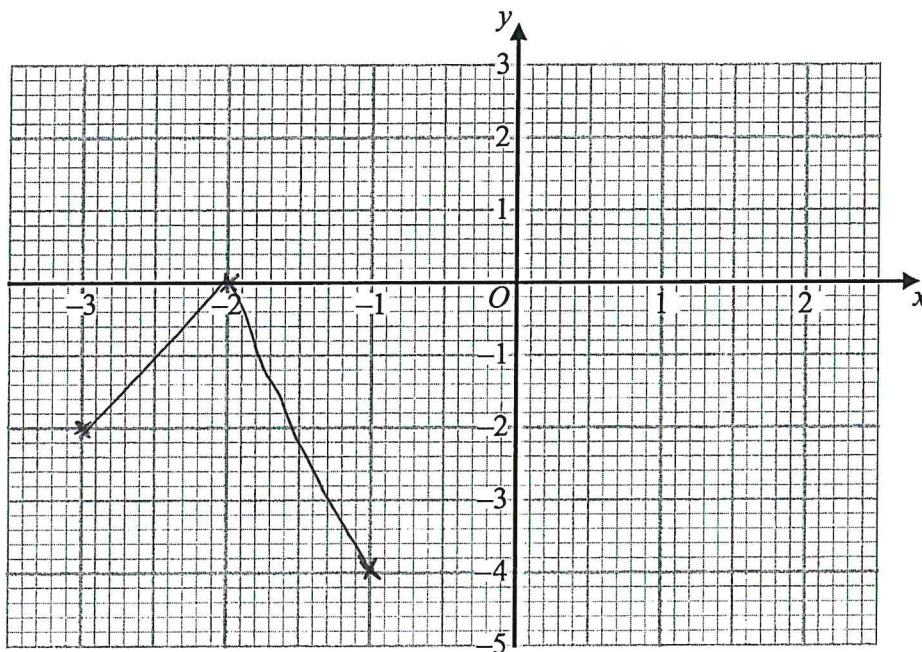
$-1^2 + 1 - 4$

$-2^2 - 4$

$-3^2 + 1 - 4$

(2)

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



(2)

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

(-2, 3)

(1)

(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. 40

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.

~~280~~ 40 of choc is dark

MC = 1

WC = 3

240 left

40 dark choc
80 white choc
120 milk

$$3 \overline{) 240} \begin{array}{r} 8 \\ \hline \end{array}$$

$$n = \frac{120}{\dots} \quad (5)$$

10 milk chocolates from the box are eaten.

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

(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.

Bidmas

$$\begin{array}{r}
 5.7 \times 100 \\
 \hline
 570 \\
 \hline
 57000 \\
 \hline
 120000
 \end{array}$$

$$\begin{array}{r}
 5.7 \times 100 \\
 \hline
 570 \\
 \hline
 12000
 \end{array}$$

$$\begin{array}{r}
 5.7 \times 100 \\
 \hline
 570 \\
 \hline
 57000 \\
 \hline
 120000
 \end{array}$$

$$\begin{array}{r}
 9.8 \times 10^3 \\
 9.8 \times 1000 \\
 \hline
 9800 \\
 \hline
 98000 \\
 \hline
 170000
 \end{array}$$

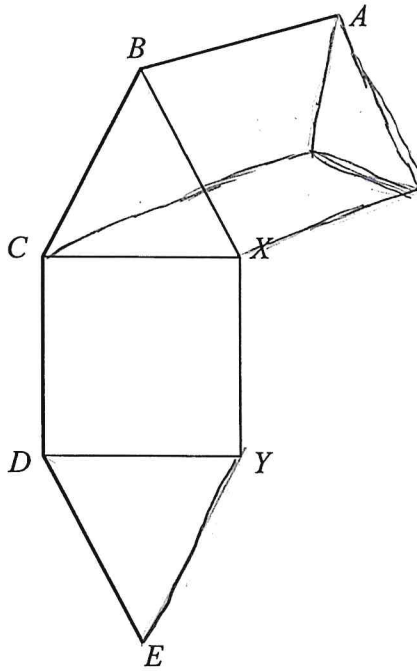
182000 or 1820³

(Total for Question 23 is 3 marks)

$$\begin{array}{r}
 170000 \\
 12000 \\
 \hline
 182000
 \end{array}$$



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



BCX is an equilateral triangle.
 $CDYX$ is a square.

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

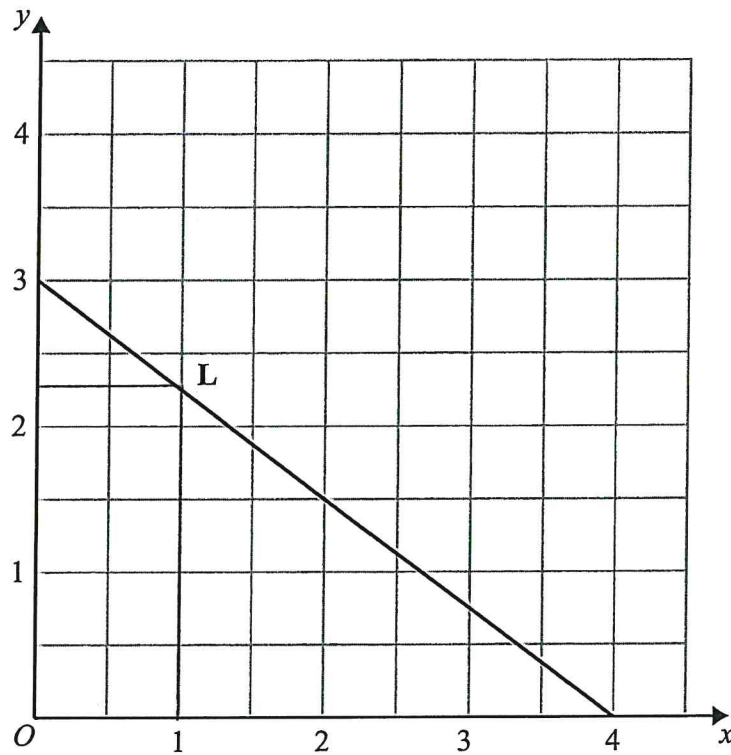
$$\begin{aligned} \angle BCX &= 180^\circ \\ \angle CDYX &= 360^\circ \\ \angle DYE &= 180^\circ \end{aligned}$$

$$n = 5$$

(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 $y = mx + c$

$$y = 2 + 1$$

$$y = 2 + 1$$

(Total for Question 25 is 3 marks)

Turn over for Question 26



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

Work out $2\mathbf{c} + 3\mathbf{d}$
Give your answer as a column vector.

$$2\mathbf{c} = \begin{pmatrix} 14 \\ 8 \end{pmatrix} + 3\mathbf{d} = \begin{pmatrix} 6 \\ -3 \end{pmatrix} = \begin{pmatrix} 20 \\ 5 \end{pmatrix}$$

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

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

2

