

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Candidate Number

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

Time 1 hour 30 minutes

Paper
reference

1MA1/3F

Mathematics

PAPER 3 (Calculator)

Foundation Tier

Mock set 7

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **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 be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.



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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Answer ALL questions.

Write your answers in the spaces provided.

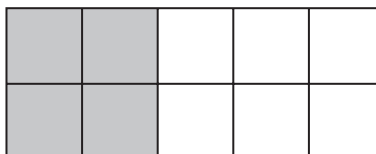
You must write down all the stages in your working.

1 Write 36.82 correct to the nearest whole number.

.....

(Total for Question 1 is 1 mark)

2 What percentage of this shape is shaded?



.....%

(Total for Question 2 is 1 mark)

3 Write down the value of the 4 in the number 375.48

.....

(Total for Question 3 is 1 mark)

4 Simplify $y + y + y$

.....

(Total for Question 4 is 1 mark)



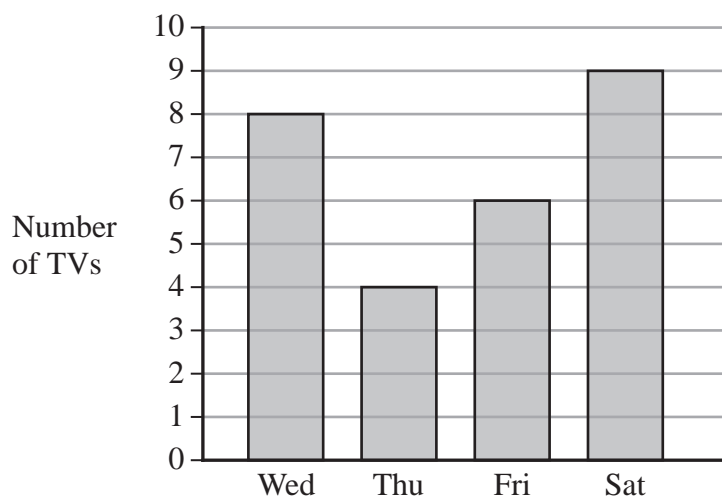
- 5 Here is a list of numbers.

8 10 12 15 16 20 24

Write down the number from the list that is a square number.


(Total for Question 5 is 1 mark)

- 6 The bar chart shows the number of TVs sold in a shop on Wednesday, on Thursday, on Friday and on Saturday.



Amy started to draw a pictogram to show the **same** information. She has shown the information for Wednesday on the pictogram.

Complete the pictogram.

Wednesday	
Thursday	
Friday	
Saturday	

Key:

(Total for Question 6 is 3 marks)



S 7 0 4 0 2 A 0 3 2 0

7 Asim buys

one loaf of bread costing 92p
one tub of spread costing £1.35
two jars of jam.

Asim pays with a £10 note.
He gets £4.85 change.

Work out the cost of **one** jar of jam.

£.....

(Total for Question 7 is 3 marks)

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8 Here are the first four terms of a number sequence.

5 9 13 17

(a) Write down the next term of this sequence.

.....
(1)

The 50th term of this number sequence is 201

(b) Write down the 51st term of this sequence.

.....
(1)

328 is **not** a number in this sequence.

(c) Explain why.

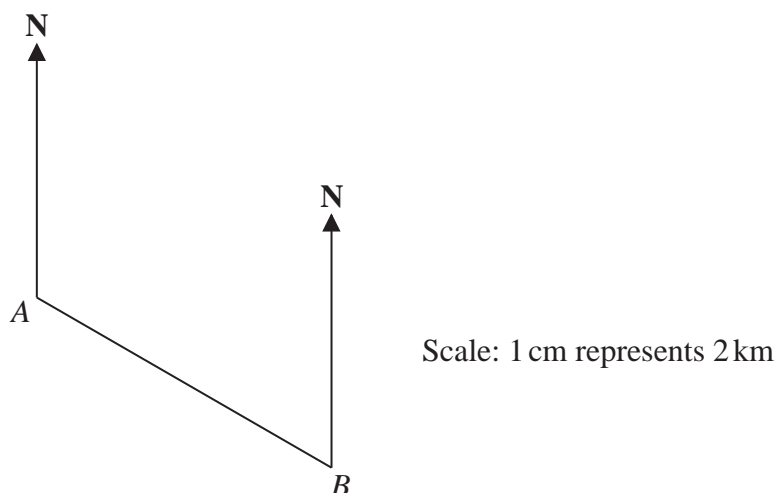
.....
.....
.....
(1)

(Total for Question 8 is 3 marks)



S 7 0 4 0 2 A 0 5 2 0

- 9 The accurate scale drawing shows the positions, A and B , of two masts on horizontal ground.



- (a) Find the bearing of B from A .

.....
(1)

- (b) Work out the real distance from A to B .
Give your answer in km.

..... km
(2)

(Total for Question 9 is 3 marks)

- 10 There are only blue pens and red pens in a box.
The ratio of the number of blue pens in the box to the number of red pens in the box is 5 : 3

What fraction of the pens in the box are red pens?

.....

(Total for Question 10 is 1 mark)



- 11** Write these numbers in order of size.
Start with the smallest number.

71.8% $\frac{11}{16}$ $\frac{5}{7}$ 0.71

.....
(Total for Question 11 is 2 marks)

- 12** There are 80 litres of water in a tank.

The water flows out of the tank at a rate of 125 millilitres per second.

Work out the time, in seconds, that it takes for all of the water to flow out of the tank.

..... seconds

(Total for Question 12 is 3 marks)



S 7 0 4 0 2 A 0 7 2 0

- 13 You can use this rule to work out the total cost, in pounds, of hiring a cement mixer for a number of days.

Multiply the number of days by 9
and then add 7.50

Markus hires a cement mixer for 3 days.

- (a) Work out the total cost.

£
(2)

Andy hires a cement mixer.
The total cost is £106.50

- (b) Work out the number of days that Andy hires the cement mixer.

.....
(2)

Chloe hires a cement mixer for y days.
The total cost is £ T .

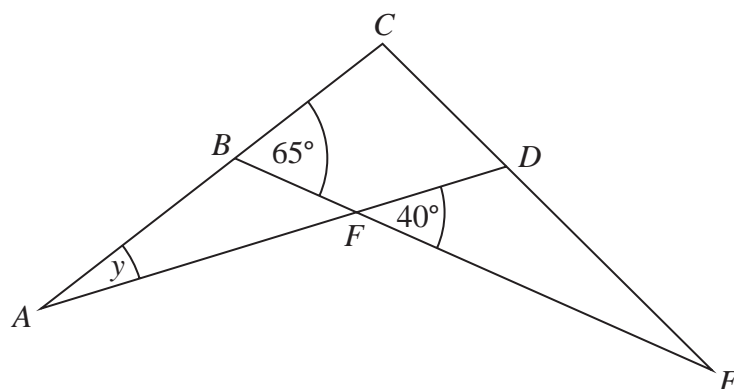
- (c) Write down a formula for T in terms of y .

.....
(2)

(Total for Question 13 is 6 marks)



14 The diagram shows four straight lines ABC , CDE , AFD and BFE .



Angle $CBF = 65^\circ$

Angle $DFE = 40^\circ$

Find the size of the angle marked y .

Give a reason for each stage of your working.

(Total for Question 14 is 4 marks)



S 7 0 4 0 2 A 0 9 2 0

15 The normal price of a Railcard is £30

Railcard offer

12% off the normal price
of a Railcard

Dan buys a Railcard using the offer.

He then buys a train ticket to York.

A ticket to York normally costs £84

Using his Railcard, Dan gets $\frac{1}{3}$ off the cost of the ticket.

Work out the total cost of the Railcard and the ticket to York.

£.....

(Total for Question 15 is 4 marks)

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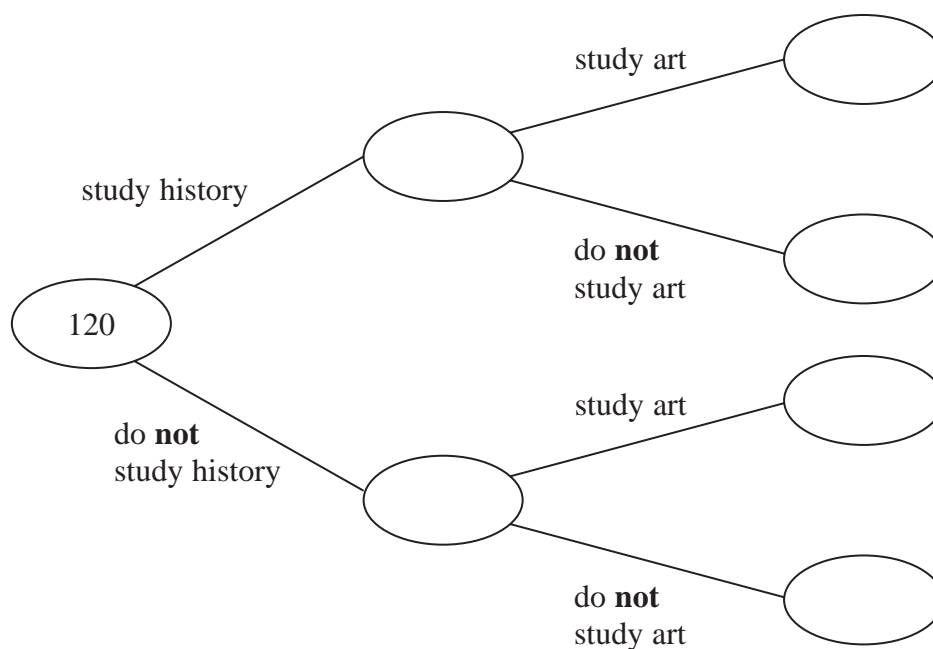
16 120 students are asked if they study history or art.

78 of the students study history.

45 of the students that study history also study art.

53 of the students do **not** study art.

(a) Use this information to complete the frequency tree.



(3)

One of the students who studies art is chosen at random.

(b) Find the probability that this student does **not** study history.

(2)

(Total for Question 16 is 5 marks)



S 7 0 4 0 2 A 0 1 1 2 0

17 Milk is sold in a shop in two sizes of bottle.



A 4 pint bottle of milk costs £1.08

A 6 pint bottle of milk costs £1.50

Which bottle of milk is the better value for money?

You must show all your working.

(Total for Question 17 is 3 marks)



18 The diagram shows two points A and B .

A \times

\times B

On the diagram show, by shading, the region that contains all the points that are
less than 4 cm from A
and closer to B than to A .

(Total for Question 18 is 3 marks)

19 Make y the subject of the formula $d = \frac{y + m}{4}$

(Total for Question 19 is 2 marks)



S 7 0 4 0 2 A 0 1 3 2 0

20 In a box, there are only blue sweets, yellow sweets, green sweets and red sweets. Joan is going to take at random a sweet from the box.

The table shows the probabilities that Joan will take a yellow sweet or will take a red sweet.

Colour	blue	yellow	green	red
Probability		0.3		0.1

The number of green sweets in the box is 3 times the number of blue sweets in the box.

There are 18 yellow sweets in the box.

Work out the number of green sweets in the box.

(Total for Question 20 is 4 marks)



21 (a) Use your calculator to work out $\frac{\sqrt{8.7^2 + 12.4}}{9.5 - 1.2^3}$

Write down all the figures on your calculator display.

.....
(2)

(b) Write your answer to part (a) correct to 3 significant figures.

.....
(1)

(Total for Question 21 is 3 marks)

22 The area of a rectangle is 12 m^2

Work out the area of the rectangle in cm^2

..... cm^2

(Total for Question 22 is 2 marks)



S 7 0 4 0 2 A 0 1 5 2 0

23 Lethna buys some boxes of pens and some packets of pencils.

There are 40 pens in each box.

There are 12 pencils in each packet.

Lethna gives one pen and one pencil to each student in Year 7 of her school.

When she has done this she has no pens left and no pencils left.

Work out how many boxes of pens and how many packets of pencils Lethna could have bought.

..... boxes of pens

..... packets of pencils

(Total for Question 23 is 3 marks)

24 A shipping container is placed on horizontal ground.

The container exerts a force of 29 400 newtons on the ground.

The pressure on the ground due to the container is 2000 newtons/m²

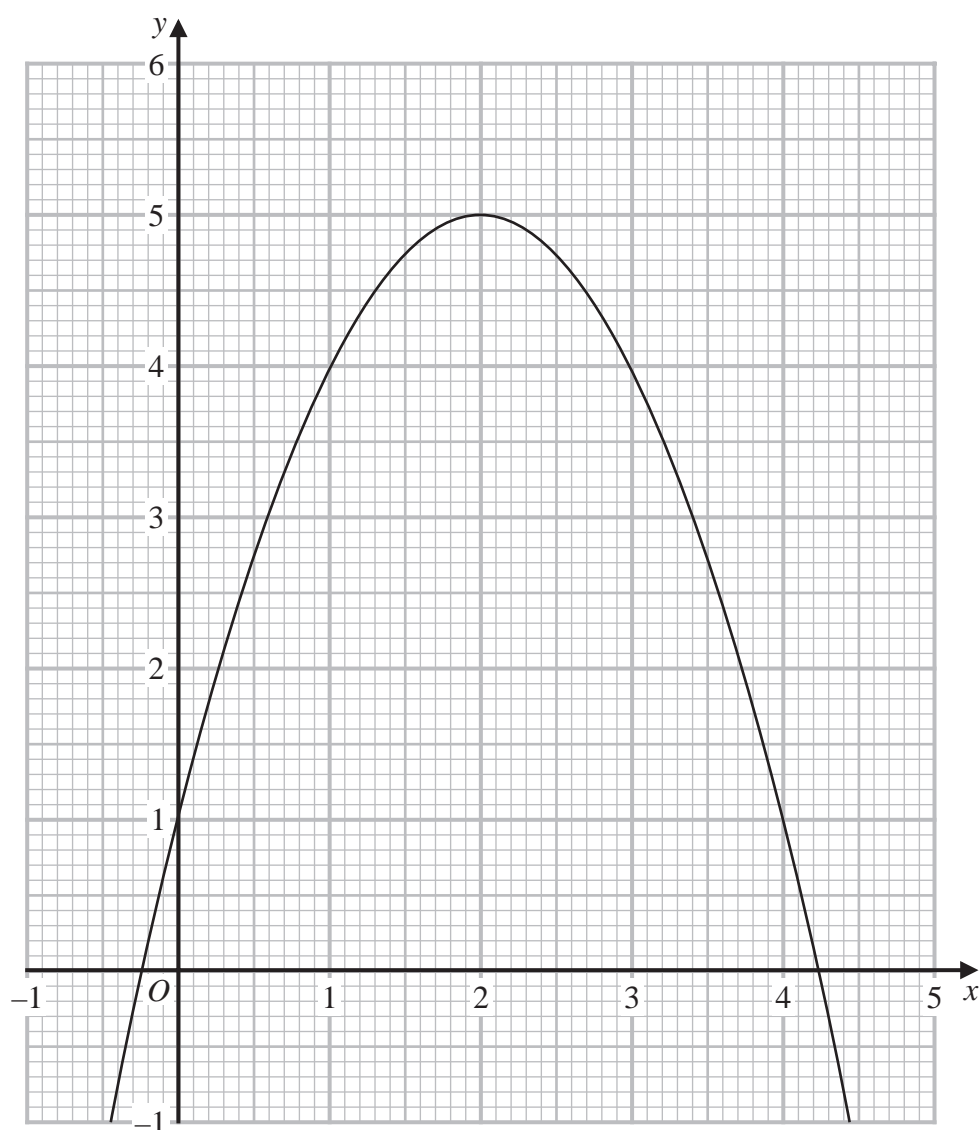
Calculate the area of the container that is in contact with the ground.

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

(Total for Question 24 is 3 marks)



25 Here is the graph of $y = 1 + 4x - x^2$



(a) Write down the coordinates of the turning point on the graph.

(.....,)

(1)

(b) Using the graph, find estimates for the solutions of the equation $1 + 4x - x^2 = 2.5$

.....

(2)

(Total for Question 25 is 3 marks)



S 7 0 4 0 2 A 0 1 7 2 0

26 Here is information about two savings accounts.

Savemore
Compound interest
1.25% each year

Highbrook
Compound interest
2.1% for the first year
0.95% for each extra year

Abi is going to invest £5000 in one of these savings accounts for 3 years.

She wants to have as much money as possible in the account at the end of 3 years.

- (a) Which savings account should Abi choose?
You must show all your working.

(4)

Before Abi decides which savings account to choose, the rate of interest for the Savemore account is changed to 1.15% each year.

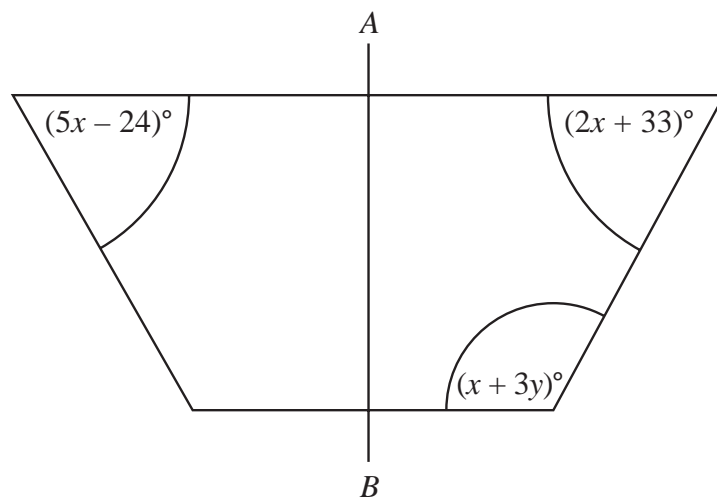
- (b) Does this affect which savings account Abi should choose?
You must give a reason for your answer.

(1)

(Total for Question 26 is 5 marks)



- 27 The diagram shows a trapezium.
 AB is the line of symmetry of the trapezium.



Work out the value of x and the value of y .

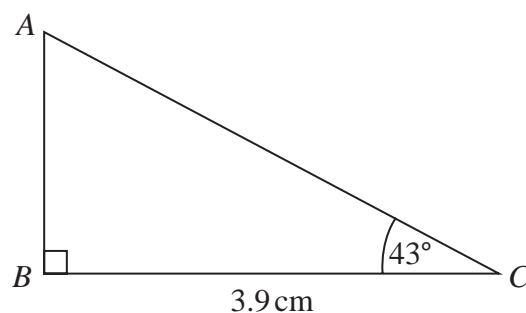
$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 27 is 5 marks)



28 ABC is a right-angled triangle.



Work out the length of AB .
Give your answer correct to 1 decimal place.

..... cm

(Total for Question 28 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

