

Write your name here

Surname

Other names

Pearson Edexcel

Level 1/Level 2 GCSE (9–1)

Centre Number

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Candidate Number

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Mathematics Shadow Paper Set A

Paper 1 (Non-Calculator)

Foundation Tier

Thursday 24 May 2018 – Morning

Time: 1 hour 30 minutes

Paper Reference

1MA1/1F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.
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 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.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Pearson

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Write 4038 correct to the nearest thousand.

.....

(Total for Question 1 is 1 mark)

2 (a) Write the following numbers in order of size.
Start with the smallest number.

-1 6 -2 0 12

.....

(1)

(b) Write the following numbers in order of size.
Start with the smallest number.

0.315 0.000513 0.00315 0.513

.....

(1)

(Total for Question 2 is 2 marks)

3 Write 60% as a fraction.

.....

(Total for Question 3 is 1 mark)

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4 Here is a list of four fractions.

$$\frac{4}{16} \quad \frac{2}{12} \quad \frac{15}{60} \quad \frac{3}{4}$$

Two of these fractions are **not** equivalent to $\frac{1}{4}$

Write down these fractions.

.....

(Total for Question 4 is 1 mark)

5 Write down the first even multiple of 11

.....

(Total for Question 5 is 1 mark)

6 (a) Simplify $7 \times 3t$

.....

(1)

(b) Simplify $6a - 4a + 7a$

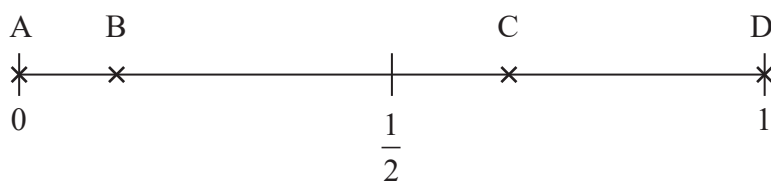
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(1)

(Total for Question 6 is 2 marks)



- 7 Here is a probability scale.
It shows the probability of each of the events A, B, C and D.



- (a) Write down the letter of the event that is impossible.

.....
(1)

- (b) Write down the letter of the event that is likely.

.....
(1)

There are 15 counters in a bag.

- 3 of the counters are red.
- 1 of the counters is blue.
- 2 of the counters are yellow.
- The rest of the counters are green.

Caitlin takes at random a counter from the bag.

- (c) Show that the probability that this counter is red or green is $\frac{4}{5}$

(3)

(Total for Question 7 is 5 marks)



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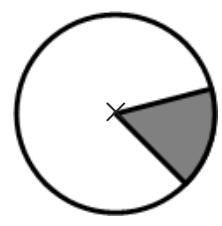
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8 9 kg of meat costs £54
Nina buys 5 kg of the meat.
Work out how much Nina pays.

£

(Total for Question 8 is 2 marks)

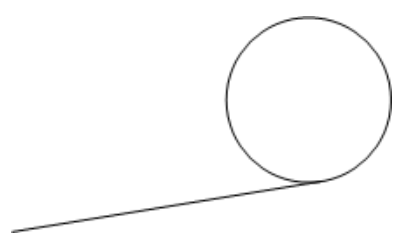
9 The centre of this circle is marked with a cross (×).



(a) Write down the mathematical name of the shaded part shown in the circle.

.....
(1)

(b) Write down the mathematical name of the straight line that is touching the circle.



.....
(1)

(Total for Question 9 is 2 marks)



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10 Tim and three friends go on holiday together for a week.

The 4 friends will share the costs of the holiday equally.

Here are the costs of the holiday.

- £1780 for 4 return plane tickets
- £748 for the villa
- £268 for hire of a car for the week

Work out how much Tim has to pay for his share of the costs.

£

(Total for Question 10 is 3 marks)



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11 Write down an example to show that each of the following two statements is **not** correct.

(a) The factors of an even number are always even.

..... (1)

(b) All the digits in an even number are even.

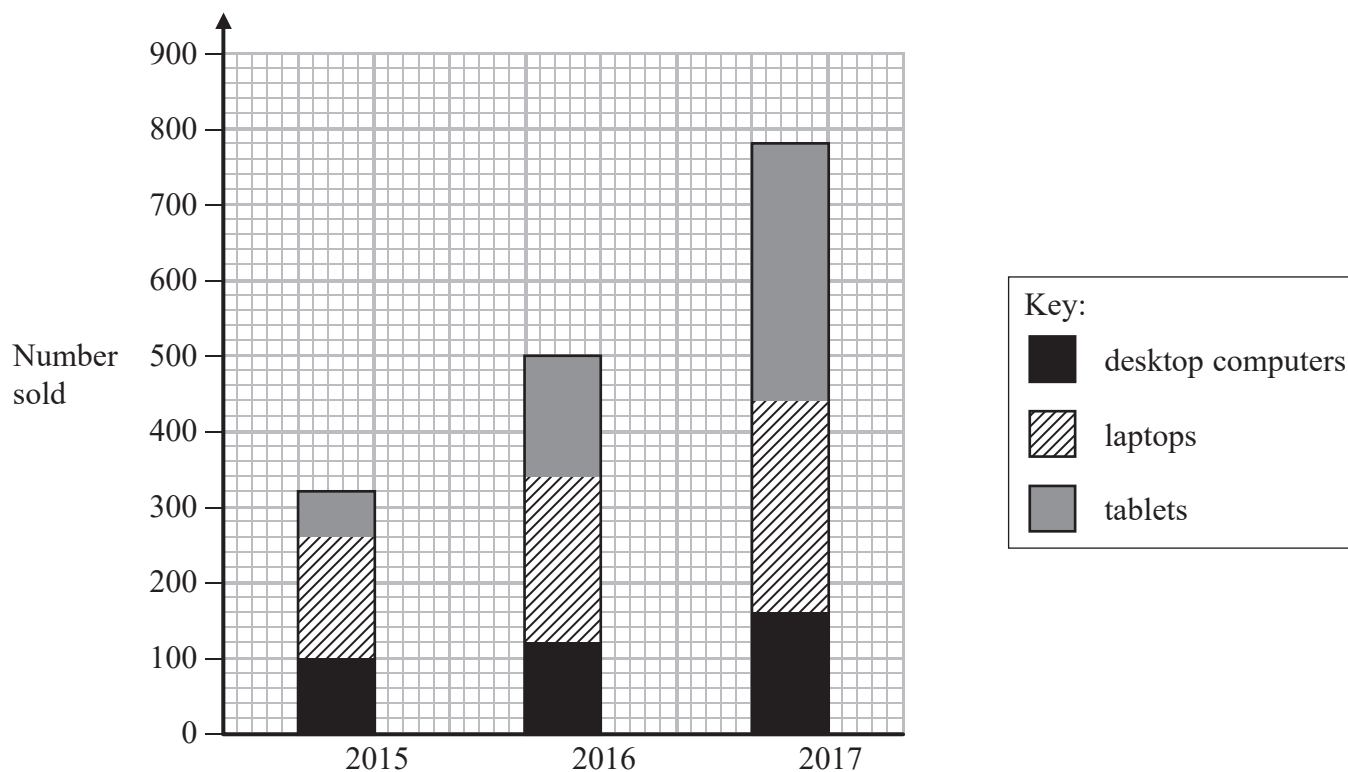
..... (1)

(Total for Question 11 is 2 marks)



12 A shop sells desktop computers, laptops and tablets.

The composite bar chart shows information about sales over the last three years.



(a) Write down the number of desktop computers sold in 2017

..... (1)

(b) Work out the total number of tablets sold in the 3 years.

..... (3)

(c) State the item that had the greatest increase in sales over the 3 years.
Give a reason for your answer.

.....
.....
..... (2)



Alex says,

“In 2017, more tablets were sold than desktop computers. This means the shop makes more profit from the sale of tablets than from the sale of desktop computers.”

(d) Is Alex correct?

You must justify your answer.

(1)

(Total for Question 12 is 7 marks)

13 A piece of wire is 303 cm long.

Peter cuts three 45 cm lengths off the wire.

He then cuts the rest of the wire into as many 24 cm lengths as possible.

Work out how many 24 cm lengths of wire Peter cuts.

(Total for Question 13 is 3 marks)



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14 Gavin, Harry and Isabel each earn the same monthly salary.

Each month, Gavin saves 41% of his salary and spends the rest.

Harry spends $\frac{3}{4}$ of his salary and saves the rest.

The proportion that Isobel saves her salary to spends it is 3:5.

Work out who saves the most of their salary each month.
You must show how you get your answer.

(Total for Question 14 is 4 marks)

15 Work out 45% of 160 grams.

..... grams

(Total for Question 15 is 2 marks)



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16 $P = 4x + 3y$

$x = 8$

$y = -3$

(a) Work out the value of P .

.....
(2)

(b) Expand $6f(f + 2)$

.....
(2)

(c) Solve $5(m - 4) = 10$

$m =$
(2)

(Total for Question 16 is 6 marks)



17 There are some chocolates in a box.

$\frac{3}{5}$ of the chocolates contain nuts.

The rest of the chocolates do not contain nuts.

Write down the ratio of the number of chocolates that contain nuts to the number of chocolates that do not contain nuts.

Give your answer in the form $1 : n$

.....
(Total for Question 17 is 2 marks)

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18 $A = \{\text{multiples of 3 between 14 and 26}\}$

$B = \{\text{odd numbers between 14 and 26}\}$

(a) List the members of $A \cup B$

..... (2)

(b) Describe the members of $A \cap B$

..... (1)

(Total for Question 18 is 3 marks)



19 (a) Work out $2\frac{1}{8} + 1\frac{1}{5}$

.....
(2)

(b) Work out $1\frac{3}{5} \times 4\frac{7}{8} =$

Give your answer in the simplest form possible

.....
(2)

(Total for Question 19 is 4 marks)

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20 In a village

the number of houses and the number of flats are in the ratio 5 : 3

the number of flats and the number of bungalows are in the ratio 18 : 20

There are 160 bungalows in the village.

How many houses are there in the village?

.....
(Total for Question 20 is 3 marks)



21 Renee buys 7 kg of sweets to sell.
She pays £21 for the sweets.

Renee puts all the sweets into bags.
She puts 250 g of sweets into each bag.
She sells each bag of sweets for 95p.

Renee sells all the bags of sweets.

Work out her percentage profit.

.....%

(Total for Question 21 is 4 marks)

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22 A cycle race in America 8148.95 miles in length.

Juan knows his average speed for his previous races is 18.37 miles per hour.
For the next race in America he will cycle for 8 hours per day.

(a) Estimate how many days Juan will take to complete the race.

.....
(3)

Juan trains for the race.
The average speed he can cycle at increases.
It is now 19.237 miles per hour.

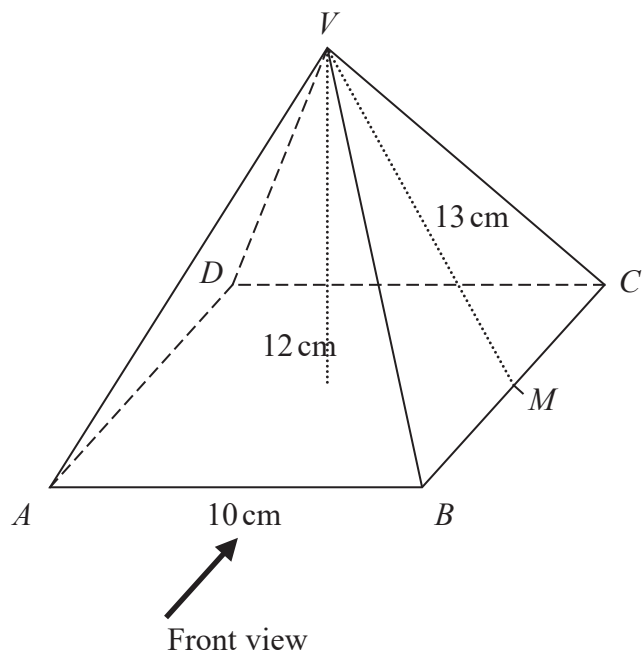
(b) How does this affect your answer to part (a)?

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

(Total for Question 22 is 4 marks)

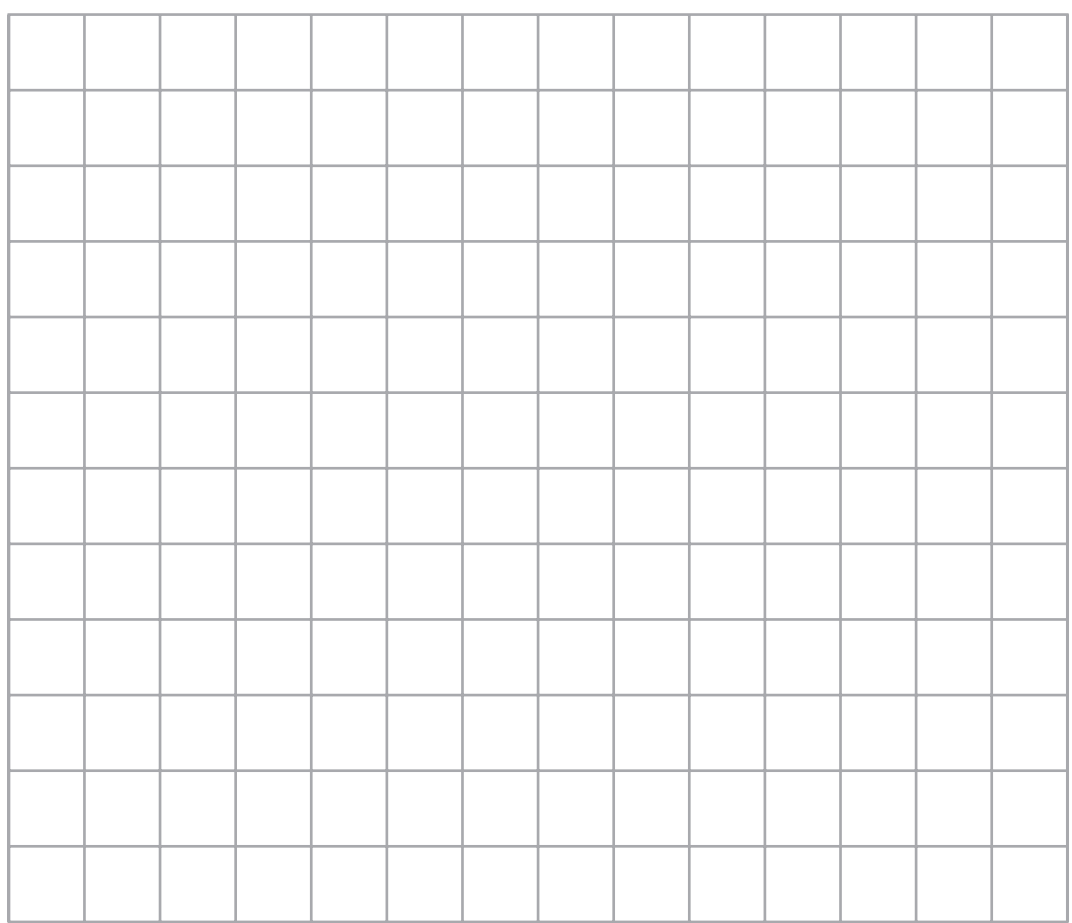


23 Here is a solid square-based pyramid, $VABCD$.



The base of the pyramid is a square of side 10 cm.
 The height of the pyramid is 12 cm.
 M is the midpoint of BC and $VM = 13$ cm.

(a) Draw an accurate front elevation of the pyramid from the direction of the arrow.



(2)



(b) Work out the total surface area of the pyramid.

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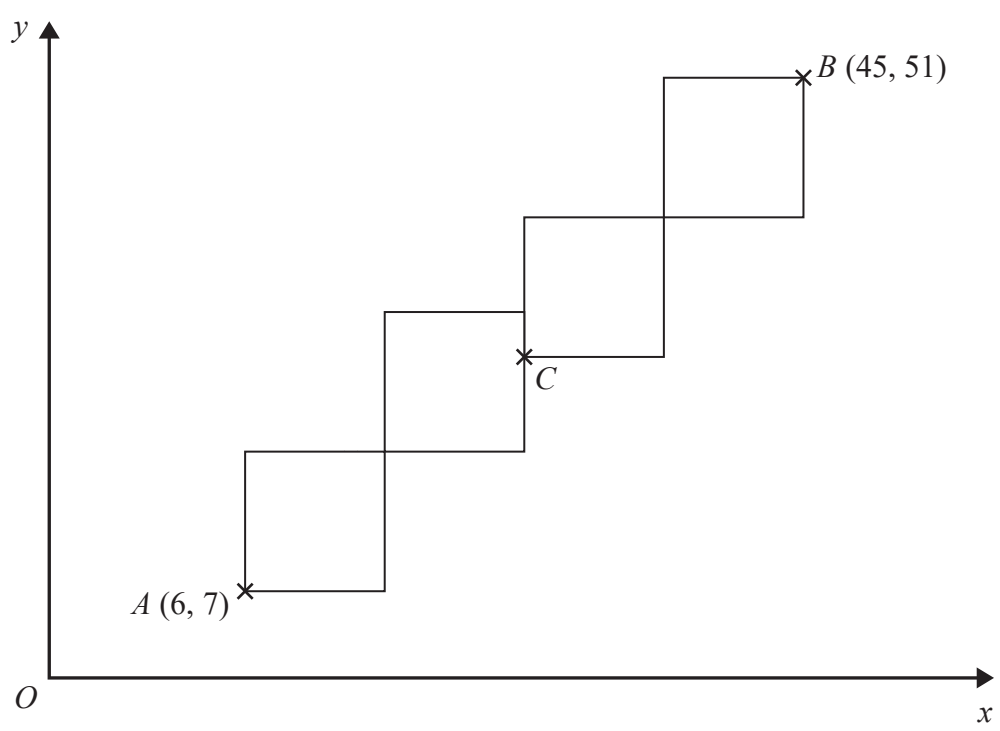
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.....
(4)

(Total for Question 23 is 6 marks)



24 A pattern is made from four identical squares.
The sides of the squares are parallel to the axes.



Point *A* has coordinates (6, 7)
Point *B* has coordinates (45, 51)
Point *C* is marked on the diagram.

Work out the coordinates of *C*.

(.....,))

(Total for Question 24 is 5 marks)

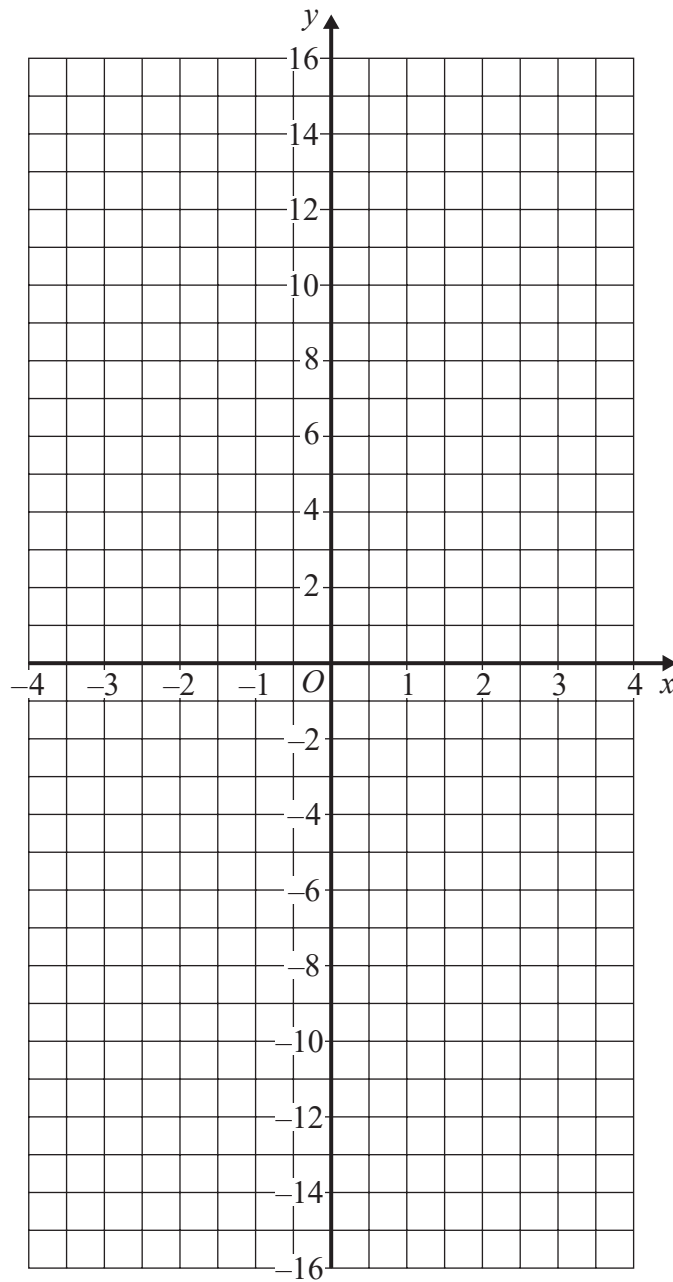


25 On the grid below, draw the graph of $y = 2 - 3x$ for values of x from -3 to 3

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(Total for Question 25 is 3 marks)



P 4 8 5 2 7 A 0 2 1 2 4

$$26 \quad \mathbf{a} = \begin{pmatrix} 5 \\ 2 \end{pmatrix} \quad \mathbf{b} = \begin{pmatrix} -1 \\ 7 \end{pmatrix}$$

Work out $2\mathbf{a} + 7\mathbf{b}$ as a column vector.

$$\begin{pmatrix} \\ \text{---} \\ \\ \text{---} \end{pmatrix}$$

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

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