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Pearson Edexcel Centre Number Candidate Number

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Mathematics A

Practice paper 4F



Foundation Tier

| | |
|----------------------|-------------------------------------|
| Time: 2 hours | Paper Reference 4MA1/PP4F |
|----------------------|-------------------------------------|

| | |
|--|-------------|
| <p>You must have: Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.</p> | 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.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- **Calculators may be used.**
- You must **NOT** write anything on the formulae page.
Anything you write on the formulae page will gain NO credit.

Information

- The total mark for this paper is 100.
- 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

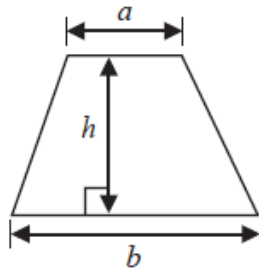
- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

4MA1 Practice paper 4F

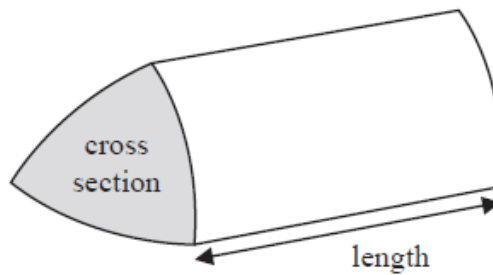
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International GCSE Mathematics
Formulae sheet – Foundation Tier

Area of trapezium = $\frac{1}{2}(a + b)h$

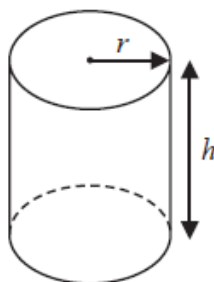


Volume of prism = area of cross section \times length



Volume of cylinder = $\pi r^2 h$

Curved surface area of cylinder = $2\pi r h$



Answer ALL TWENTY TWO questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** (a) Write down all the factors of 70.

.....
(2)

Here is a list of numbers.

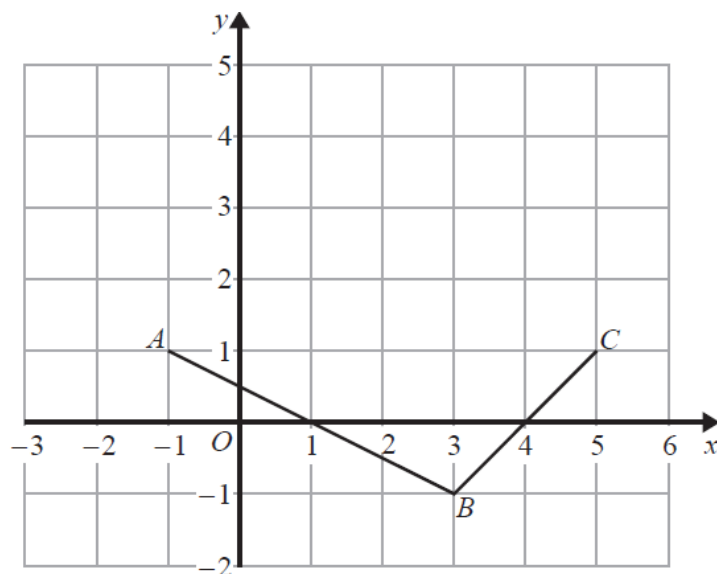
3471 5009 855 738 9113 1042 2005

- (b) Subtract the smallest number in the list from the largest number in the list.

.....
(2)

(Total for Question 1 is 4 marks)

2 The diagram shows the straight lines AB and BC drawn on a centimetre grid.



(a) Write down the coordinates of

(i) C

(.....,) (2)

(ii) B

(.....,) (2)

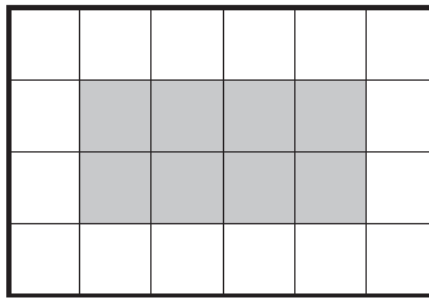
(b) On the grid, mark the point D so that $ABCD$ is a kite. (1)

(c) Work out the gradient of AB .

..... (2)

(Total for Question 2 is 5 marks)

3 Rectangle **A** is made from centimetre squares.

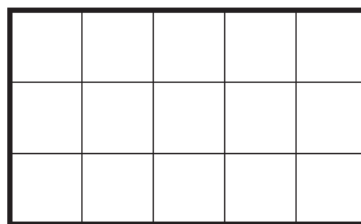


rectangle **A**

(a) What fraction of rectangle **A** is shaded?

.....
(1)

Rectangle **B** is made from centimetre squares.



rectangle **B**

(b) Shade 20% of rectangle **B**.

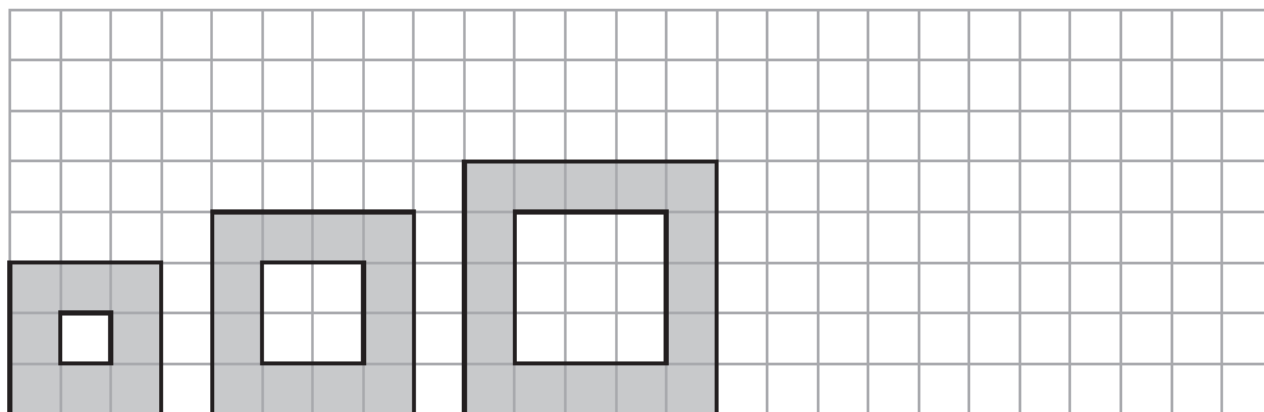
(1)

(c) Work out 30% of 185.

.....
(2)

(Total for Question 5 is 3 marks)

4 Here is a sequence of shapes drawn on a square grid.



Shape number 1

Shape number 2

Shape number 3

Shape number 4

(a) On the grid, draw Shape number 4

(1)

The table shows the number of shaded squares in the first three shapes.

| | | | | | |
|---------------------------------|---|----|----|---|---|
| Shape number | 1 | 2 | 3 | 4 | 5 |
| Number of shaded squares | 8 | 12 | 16 | | |

(b) Complete the table to show the number of shaded squares in Shape number 4 and Shape number 5.

(1)

(c) Work out the number of shaded squares in Shape number 9.

.....
(2)

The width of Shape number 1 is 3 squares.

The width of Shape number 2 is 4 squares.

(d) Find the width of Shape number 8.

..... squares
(1)

The width of Shape number n is W squares.

(e) Write down a formula for W in terms of n .

.....
(2)

(Total for Question 4 is 7 marks)

5 (a) Put brackets in the following to make the calculation correct.

(i) $2 + 4 \times 6 - 3 = 33$

(ii) $2 + 4 \times 6 - 3 = 14$

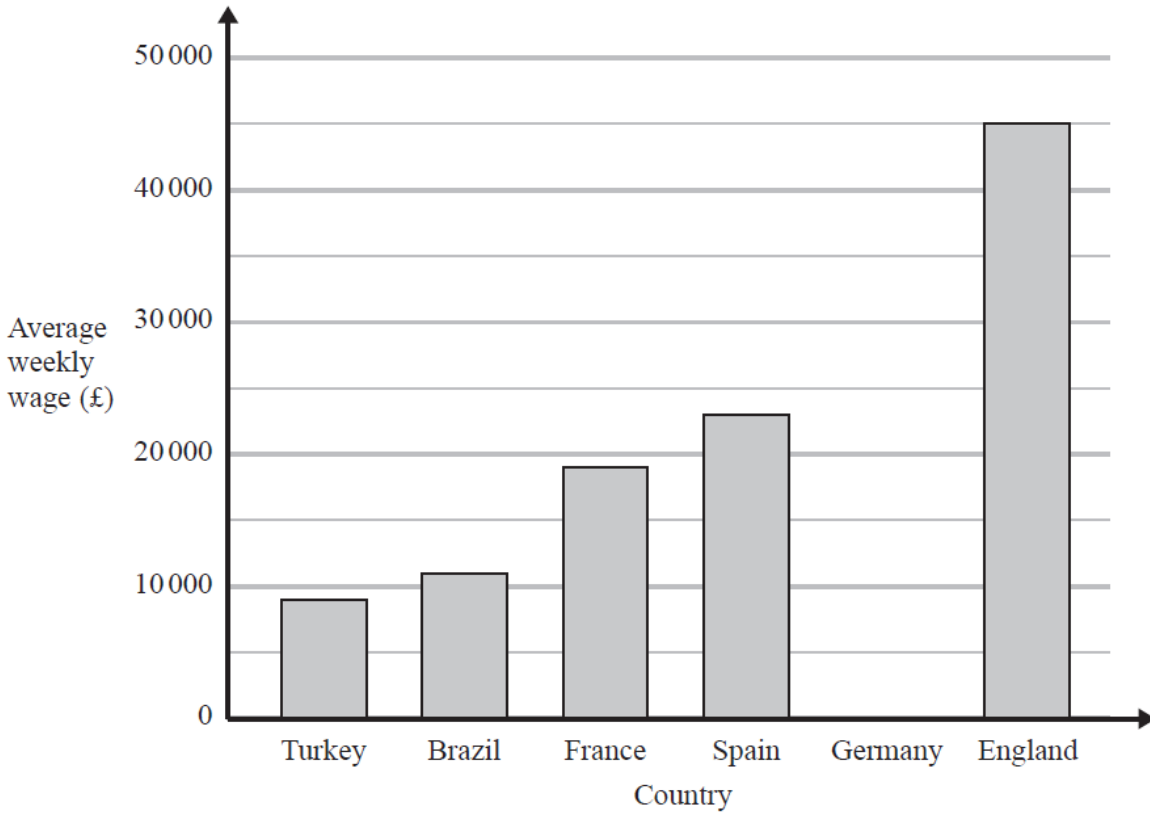
(2)

(b) Work out the value of $\frac{20-4}{2} - \frac{18}{6-3}$

.....
(2)

(Total for Question 5 is 4 marks)

- 6 The bar chart shows information about the average weekly wage of top football players in five countries.



- (a) Find the average weekly wage of top football players in England.

£

(1)

- (b) In which of these countries is the average weekly wage of top football players £19 000?

.....

(1)

The average weekly wage of top football players in Germany is £28 000

- (c) Show this information on the bar chart.

(1)

The table shows the average income per year for top football clubs in each of six countries.

| | | | | | | |
|---------------------------|--------|---------|--------|---------|-------|--------|
| Country | Brazil | England | France | Germany | Spain | Turkey |
| Income (£ million) | 36 | 155 | 48 | 90 | 78 | 26 |

(d) Find the range.

£ million
(2)

The table below shows information about the number of goals scored by a football club in each of its last 45 games.

| Number of goals | Number of games |
|------------------------|------------------------|
| 0 | 7 |
| 1 | 14 |
| 2 | 8 |
| 3 | 10 |
| 4 | 5 |
| 5 | 0 |
| 6 | 1 |

(e) Find the median number of goals.
Show your working clearly.

.....
(2)

(Total for Question 6 is 7 marks)

7 The table shows temperatures recorded on five planets.

| Planet | Venus | Earth | Mars | Jupiter | Uranus |
|------------------|-------|-------|------|---------|--------|
| Temperature (°C) | 458 | 14 | -55 | -153 | -214 |

(a) What is the difference between the temperatures recorded on

(i) Earth and Mars,

..... °C

(ii) Jupiter and Mars?

..... °C
(2)

A temperature recorded on Pluto is 693°C less than the temperature recorded on Venus.

(b) Work out the temperature on Pluto.

..... °C
(1)

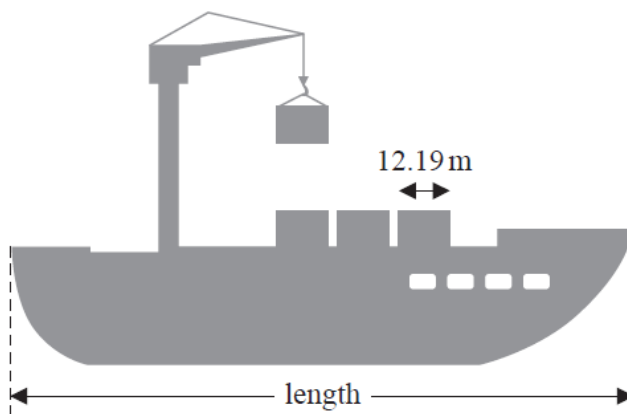
(c) Work out the mean of

458 14 -55 -153 -214

.....
(2)

(Total for Question 7 is 5 marks)

- 8 The diagram shows a picture of a ship and four containers. The ship and the containers are drawn to the same scale.



The length of each container is 12.19 m.

- (a) Work out an estimate for the length of the ship.
Show your working clearly.

..... m
(2)

A different container is a cuboid with length 6.2 m, width 2.4 m and height 2.5 m.

- (b) Work out the volume of this container.

..... m³
(2)

(Total for Question 8 is 4 marks)

- 9 The weekly rent for a holiday apartment is £530, which is the same as 715.5 euros.
The weekly rent for a holiday cottage is £750.

Using the same rate of currency exchange, work out the weekly rent for the cottage in euros.

..... euros

(Total for Question 9 is 3 marks)

- 10 (a) Simplify $9x^2 + 2x^2 - 5x^2$

.....
(1)

$$e = 2f - 5g$$

- (b) Find the value of e when $f = 12$ and $g = 3$

$e =$
(2)

(Total for Question 10 is 3 marks)

11

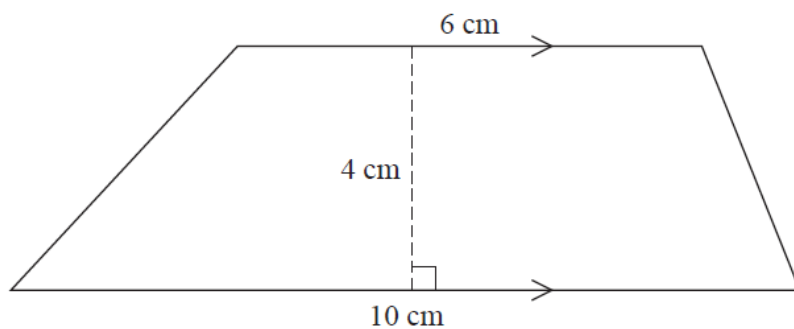


Diagram **NOT** accurately drawn

Work out the area of this trapezium.

..... cm²

(Total for Question 11 is 2 marks)

12 (a) (i) Find $\sqrt{95}$
Write down all the figures on your calculator display.

.....

(ii) Write your answer to (a)(i) correct to 2 decimal places.

..... (2)

(b) (i) Use your calculator to work out the value of

$$\frac{16^2}{3 \times 12 - \pi}$$

Write down all the figures on your calculator display.

.....

(ii) Write your answer to (b)(i) correct to 3 significant figures.

..... (3)

(Total for Question 12 is 5 marks)

13 Here is a list of five fractions.

$$\frac{7}{6} \quad \frac{9}{5} \quad \frac{3}{7} \quad \frac{5}{9} \quad \frac{10}{11}$$

(a) (i) Write down the smallest fraction in the list.

(ii) Write down the largest fraction in the list.

.....

.....

(2)

(b) Complete the statement below to show a fraction that is equivalent to $\frac{5}{9}$

$$\frac{5}{9} = \frac{\dots\dots\dots}{63}$$

(1)

(Total for Question 13 is 3 marks)

14 $P \cup Q = \{a, b, c, d, e, f\}$

$P \cap Q = \{e\}$

$a \in P, c \in Q, f \notin Q, \{b, d\} \cap Q = \emptyset$

(a) List the members of the set P .

.....

(2)

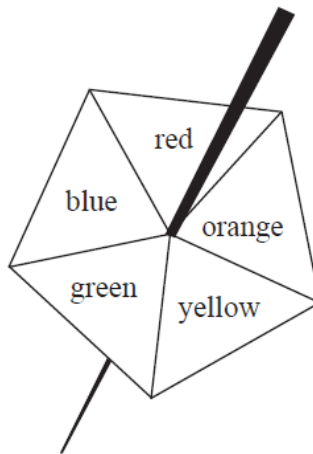
(b) List the members of the set Q .

.....

(1)

(Total for Question 14 is 3 marks)

15 Here is a biased five-sided spinner.



When the spinner is spun, it can land on red, orange, yellow, green or blue. The probabilities that it lands on red, orange and yellow are given in the table.

| | | | | | |
|--------------------|-----|--------|--------|-------|------|
| Colour | red | orange | yellow | green | blue |
| Probability | 0.4 | 0.2 | 0.1 | | |

The probability that the spinner lands on green is the same as the probability that the spinner lands on blue.

Michael spins the spinner once.

(a) Work out the probability that the spinner lands on green.

.....
(3)

Jenny spins the spinner 200 times.

(b) Work out an estimate for the number of times the spinner lands on red.

.....
(2)

(Total for Question 15 is 5 marks)

16 $D = 7c^2 + f$

(a) Work out the value of D when $c = -2$ and $f = 5$

$D = \dots\dots\dots$
(2)

(b) Solve $5(q - 3) = 12 - q$
Show clear algebraic working.

$q = \dots\dots\dots$
(3)

(c) Solve the inequality $3 - 7t \geq 31$

$\dots\dots\dots$
(2)

(Total for Question 16 is 7 marks)

17 Here are the first five terms of a number sequence.

7 11 15 19 23

(a) Find an expression, in terms of n , for the n th term of this sequence.

.....
(2)

The n th term of a different number sequence is given by $80 - 2n$

(b) Write down the first 3 terms of this sequence.

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

Yuen says there are no numbers that are in both of the sequences.
Yuen is correct.

(c) Explain why.

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

(Total for Question 17 is 5 marks)

18 The average speed for an aeroplane flight from Dubai to London is 750 km/h.
The flight time from Dubai to London is 7 hours 18 minutes.

(a) Work out the flight distance from Dubai to London.

.....km
(3)

(b) Change 750 kilometres per hour to a speed in metres per second.
Give your answer correct to the nearest whole number.

.....m/s
(3)

(Total for Question 18 is 6 marks)

19 2.2×10^7 passengers passed through Beijing Capital International Airport in 2014.

(a) Write 2.2×10^7 as an ordinary number.

.....
(1)

950 000 tonnes of cargo traffic passed through Tokyo International Airport in 2014.

(b) Write 950 000 as a number in standard form.

.....
(1)

(c) Work out $\frac{4.2 \times 10^4}{700\,000}$

Give your answer in standard form.

.....
(2)

(Total for Question 19 is 4 marks)

20 In a sale, all normal prices are reduced by 15%
The normal price of a mixer is reduced by 22.50 dollars.

Work out the normal price of the mixer.

.....dollars

(Total for Question 20 is 3 marks)

21 The diagram shows the positions of two towns, A and B .

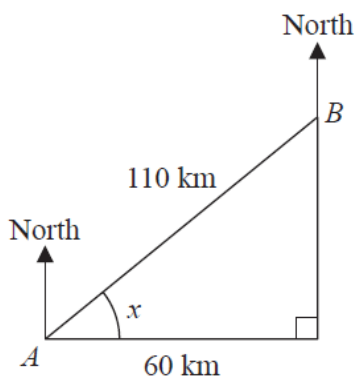


Diagram **NOT** accurately drawn

The distance from A to B is 110 km.
 B is 60 km east of A .

- (a) Work out the size of angle x .
 Give your answer correct to 1 decimal place.

.....°
(3)

- (b) Work out the bearing of B from A .
 Give your answer correct to the nearest degree.

.....°
(2)

The distance from A to B is 110 km correct to 2 significant figures.

- (c) (i) Write down the lower bound for the distance from A to B .

..... km

- (ii) Write down the upper bound for the distance from A to B .

..... km
(2)

(Total for Question 21 is 7 marks)

22 Here is a regular 10-sided polygon.

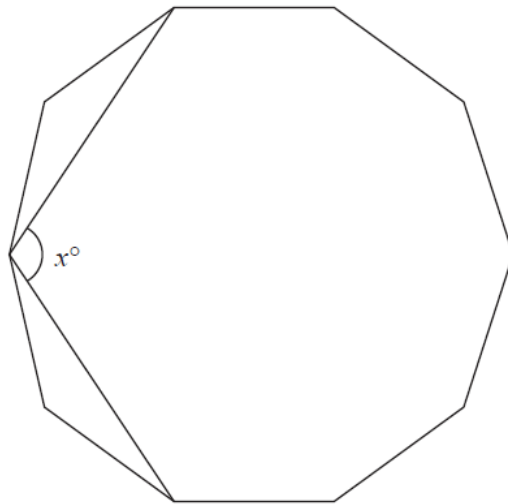


Diagram **NOT** accurately drawn

Work out the value of x .
Show your working clearly.

$x = \dots\dots\dots$

(Total for Question 22 is 4 marks)

TOTAL FOR PAPER: 100 MARKS