Write your name here

Surname		Other names

Pearson Edexcel Certificate
Pearson Edexcel
International GCSE

Centre Number

Candidate Number

Mathematics A
Paper 2F

Foundation Tier

Thursday 4 June 2015 – Morning
Time: 2 hours

Paper Reference
4MA0/2F
KMA0/2F

You must have:
Ruler graduated in centimetres and millimetres, protractor, 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.
- 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.

Turn over ▶
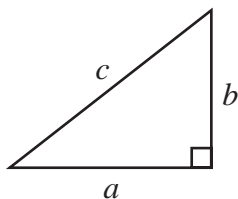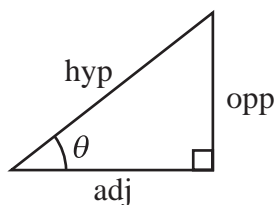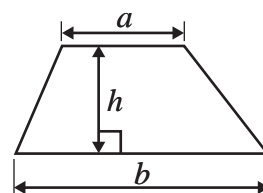
PEARSON

International GCSE MATHEMATICS
FORMULAE SHEET – FOUNDATION TIER

Pythagoras'
Theorem
$a^2 + b^2 = c^2$

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

$adj = hyp \times \cos \theta$
$opp = hyp \times \sin \theta$
$opp = adj \times \tan \theta$

Volume of prism = area of cross section × length
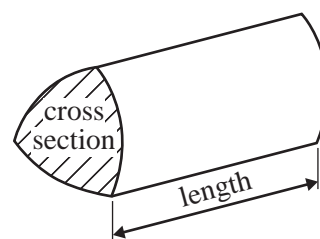
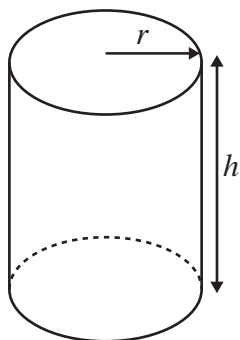*or* $\sin \theta = \dfrac{opp}{hyp}$

$\cos \theta = \dfrac{adj}{hyp}$
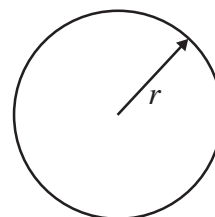
$\tan \theta = \dfrac{opp}{adj}$

Circumference of circle $= 2\pi r$

Area of circle $= \pi r^2$

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

Curved surface area
of cylinder $= 2\pi rh$

Answer ALL TWENTY ONE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 (a) Write a number in each box so that each calculation is correct.

(i) $65 \times \boxed{} = 65\,000$

(ii) $4.56 \div \boxed{} = 0.0456$

(2)

(b) Here is a list of numbers.

          –5   3   –7   4   1

Write down the smallest number in the list.

....

(1)

(c) Write down all the factors of 28

....

(2)

(d) Which two of the following numbers are prime numbers?

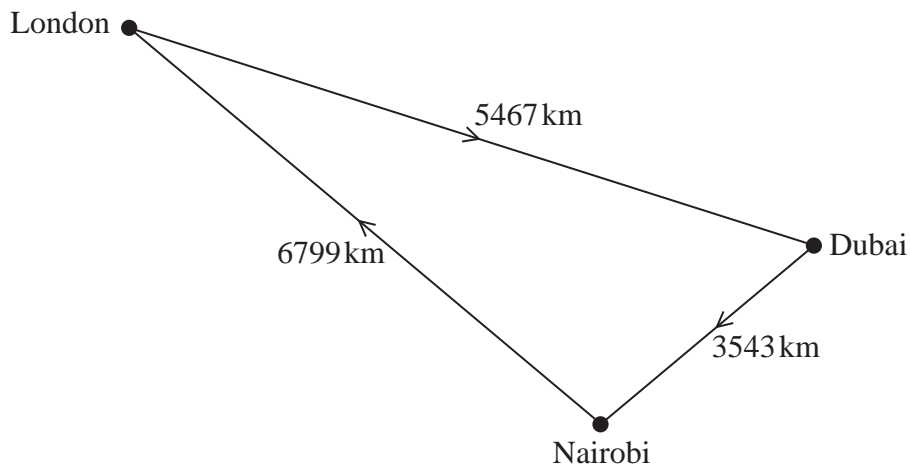   2   9   14   15   18   23   30

.... and ....

(2)

(Total for Question 1 is 7 marks)

2 A plane flies from London to Dubai and then from Dubai to Nairobi.
Then the plane flies from Nairobi back to London.

London ●
5467 km
● Dubai
6799 km
3543 km
● Nairobi

The plane flies 5467 km from London to Dubai.

(a) Write the number 5467 in words.

....

(1)

The distance the plane flies from London to Dubai and then to Nairobi is further than the
distance the plane flies from Nairobi back to London.

(b) How much further?

.... km

(2)

(Total for Question 2 is 3 marks)

3 Complete the following sentences by writing a sensible metric unit on each of the
dotted lines.

   (i) The length of a room is 4 ....

   (ii) A full bottle contains 1.5 .... of juice.
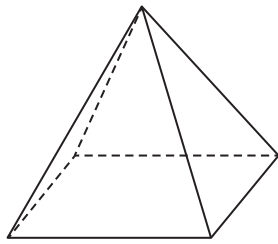
   (iii) A notebook weighs 140 ....

(Total for Question 3 is 3 marks)

4 (a) Write down the mathematical name for each of these 3-D shapes.

(i)

(ii)
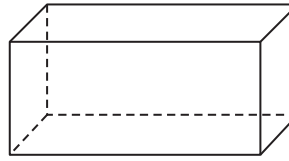
(i) .... (ii) ....

(2)

(b) How many edges has shape (i)?

....

(1)

(c) How many faces has shape (ii)?

....

(1)

(Total for Question 4 is 4 marks)

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

32   29   26   23   20

(a) Work out the next two terms of the sequence.

.... , ...

(2)

(b) Explain how you worked out your answer.

....

(1)

The 15th term of this sequence is –10

(c) Work out the 14th term of this sequence.

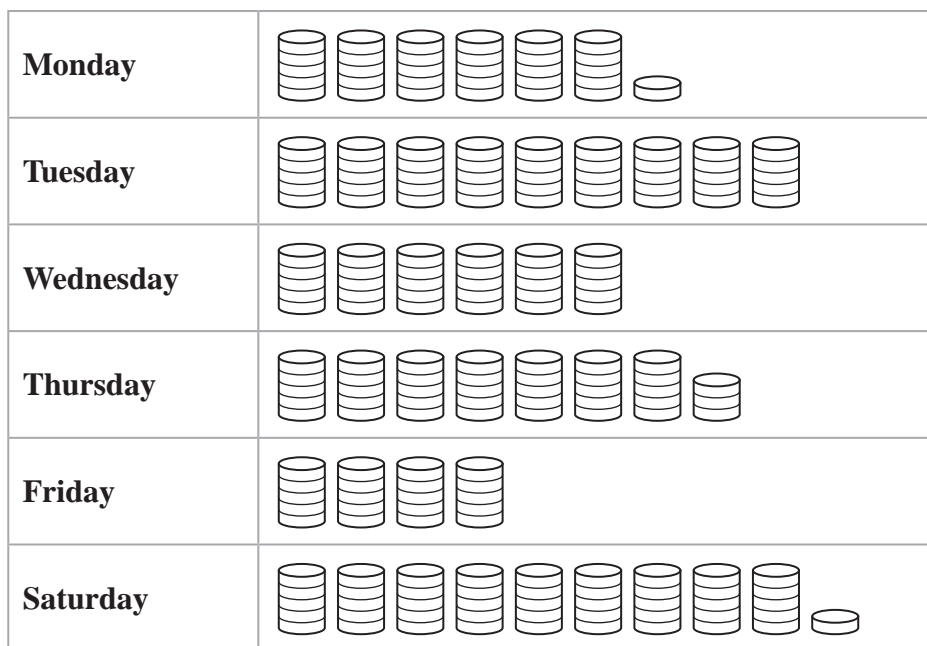...

(1)

(Total for Question 5 is 4 marks)

6 The pictogram shows information about the number of cans of cola sold in a shop on each of six days.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	

represents 10 cans of cola

(a) On which day was the greatest number of cans of cola sold?

....
(1)

(b) How many cans of cola were sold on Friday?

....
(1)

(c) How many cans of cola were sold on Thursday?

....
(1)

(d) On which day were 62 cans of cola sold?

....
(1)

(e) Find the ratio of the number of cans of cola sold on Tuesday to the number of cans of cola sold on Wednesday.
Give your ratio in its simplest form.

....
(2)

(Total for Question 6 is 6 marks)

7 (a) Write 0.8 as a percentage.

.... %
(1)

(b) Write 0.023 as a fraction.

....
(1)

(c) Write 5.6382 correct to 2 decimal places.

....
(1)

(d) Work out $\sqrt{42.25} + 1.3^2$
Give your answer as a decimal.

....
(2)

(e) Work out $\dfrac{3}{8}$ of 56.8 kg.

.... kg
(2)

(Total for Question 7 is 7 marks)

8 The diagram shows a vegetable garden in the shape of a rectangle.
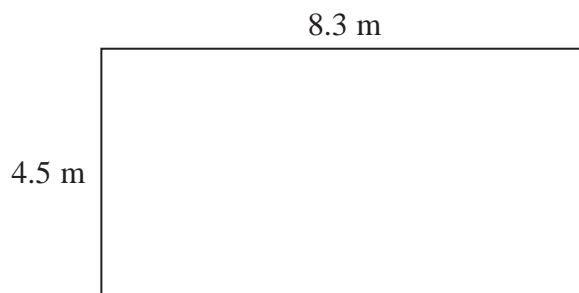
8.3 m

Diagram **NOT** accurately drawn

4.5 m

The vegetable garden has length 8.3 m and width 4.5 m.

Dan wants to put fencing completely around the edge of the vegetable garden. He already has 10.6 m of fencing.

How much more fencing does Dan need?

.... m

(Total for Question 8 is 3 marks)

9 (a) Simplify $e + e + e + e$

....
(1)

(b) Simplify $c \times 7 \times d$

....
(1)

(c) Simplify $8m + 4k + 3m - k$

....
(2)

(Total for Question 9 is 4 marks)

10 (a) Write down the square root of 100

....
(1)

Kwo writes down one square number and one cube number.
When she adds the two numbers together, she gets a total that is
more than 80 but less than 100

(b) What square number and what cube number could Kwo have written down?

square number ....

cube number ....
(3)

(Total for Question 10 is 4 marks)

11 (a) Write these fractions in order of size.
Start with the smallest fraction.

$$\frac{5}{8} \qquad \frac{3}{4} \qquad \frac{7}{16} \qquad \frac{2}{3}$$

....
(2)

(b) There are 120 animals in a zoo.
7 of these animals are lions.

What fraction of the animals in the zoo are **not** lions?

....
(2)

(Total for Question 11 is 4 marks)

12 George buys

  1 pad of paper at £2.50
  1 ruler at £1.25
  3 identical pens

George pays with a £10 note.
He gets £1.30 change.

Work out the cost of one pen.

£ ....

(Total for Question 12 is 3 marks)
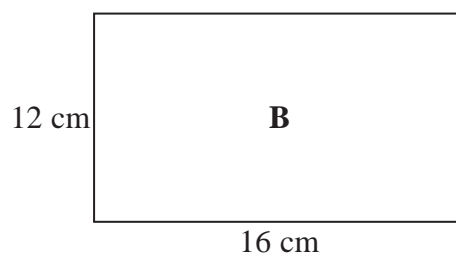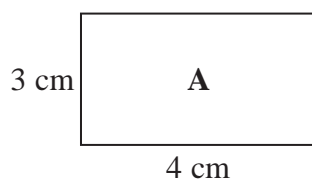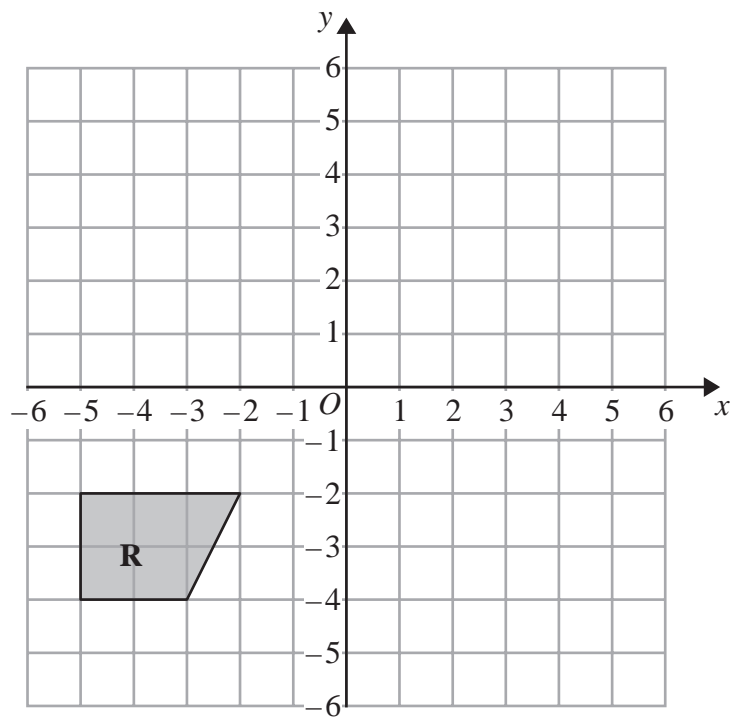
13

3 cm | **A** |
4 cm

12 cm | **B** |
16 cm

Diagram **NOT**
accurately drawn

Rectangle **B** is an enlargement of rectangle **A**.

(a) Write down the scale factor of this enlargement.
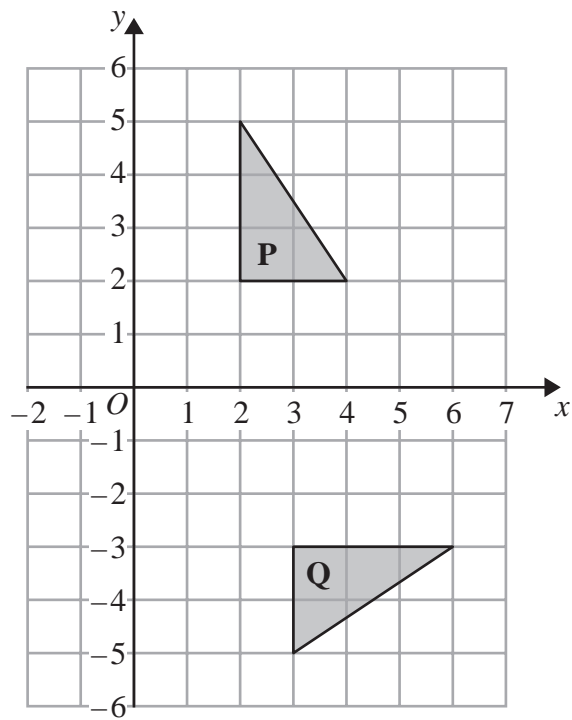
....
(1)

(b) On the grid above, reflect shape **R** in the line $y = -x$

(2)

(c) Describe fully the single transformation that maps triangle **P** onto triangle **Q**.

....

....

(3)

(Total for Question 13 is 6 marks)

P 4 4 3 8 7 A 0 1 1 2 0

14 (a) Write down the probability of an event that is impossible.

....

(1)

The probability that Jamil will be late for work is 0.2

(b) Work out the probability that Jamil will not be late for work.

....

(1)

A bag contains only red bricks and blue bricks.
There is a total of 20 bricks in the bag.

The probability that a brick taken at random from the bag will be red is $\frac{2}{5}$
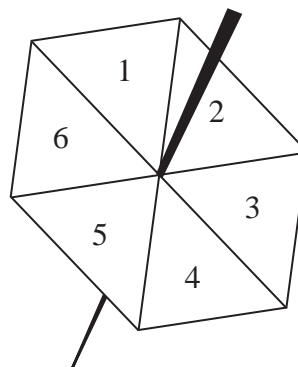
(c) How many blue bricks are there in the bag?

....

(3)

(Total for Question 14 is 5 marks)

15 Becky has a biased 6-sided spinner.
   She spins the spinner 25 times.
   She records the score for each spin.
   The table shows information about her scores.

Score	Frequency
1	9
2	6
3	3
4	2
5	1
6	4

(a) Which score is the mode?

....
(1)

(b) Work out the range of her scores.

....
(2)

(c) Find her median score.

....
(2)

(d) Work out her mean score.

....
(3)

Becky spins the spinner one more time.

(e) Find an estimate for the probability that the spinner will land on the number 4

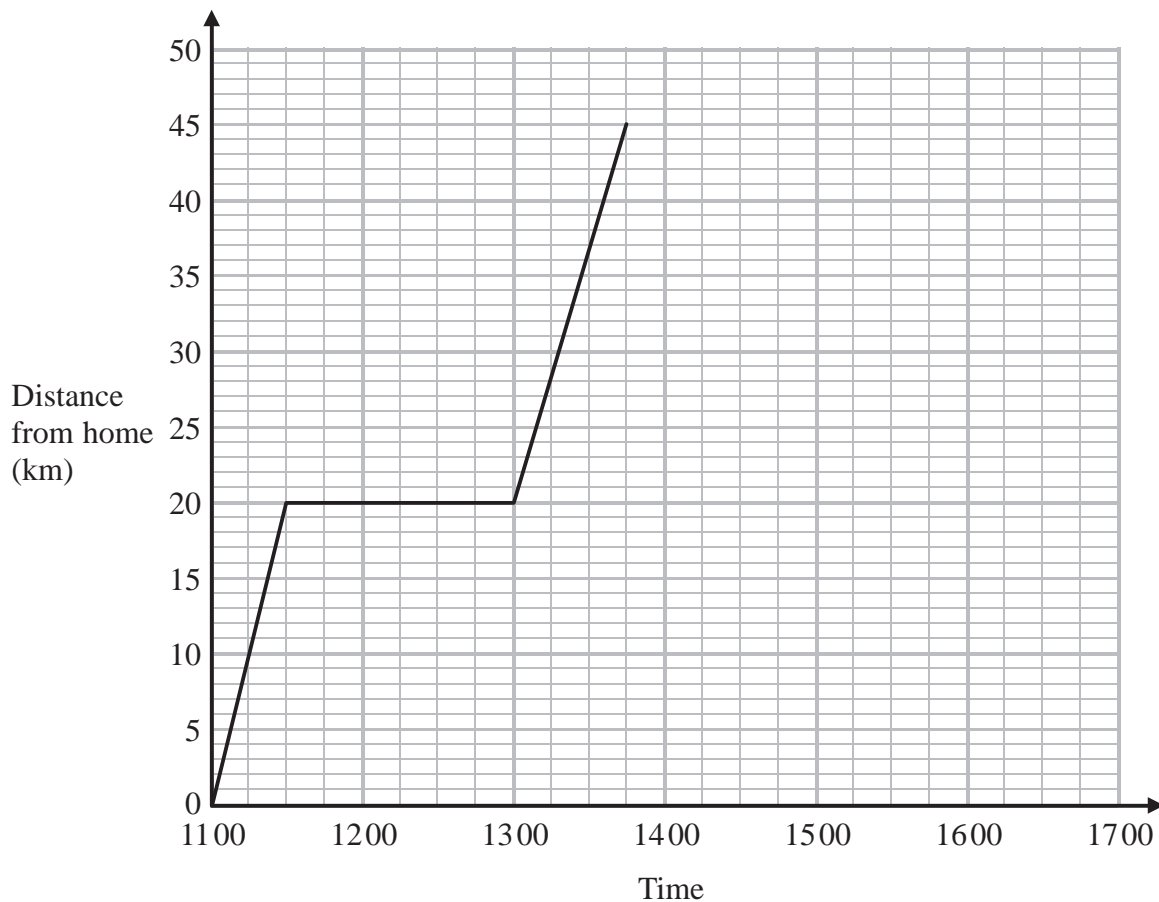...
(2)

(Total for Question 15 is 10 marks)

16 Lia left home at 11 00 to drive to a shopping centre.
On her way, she stopped at a friend's house.
Here is the distance-time graph for her journey to the shopping centre.

(a) (i) For how many minutes did Lia stay at her friend's house?

.... minutes

(ii) How far is it from her friend's house to the shopping centre?

.... km

(2)

Lia stayed at the shopping centre for $1\frac{1}{2}$ hours.

She then drove back home.
She arrived home at 16 30

(b) Show all this information on the distance-time graph.
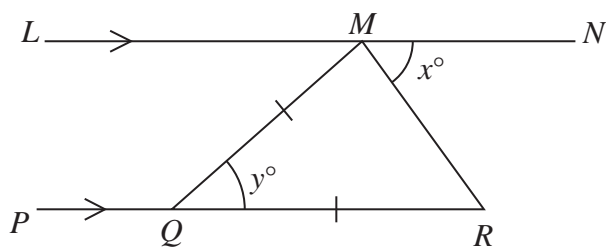
(2)

(Total for Question 16 is 4 marks)

17

Diagram **NOT** accurately drawn

LMN is parallel to *PQR*.
QM = *QR*.
Angle *RMN* = $x°$
Angle *MQR* = $y°$

(a) Write down an expression for *y* in terms of *x*.

y = ...
(2)
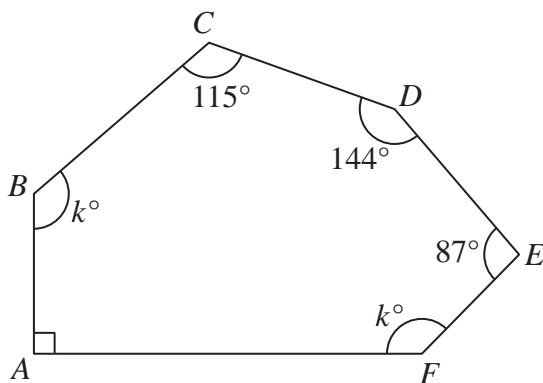
Diagram **NOT** accurately drawn

ABCDEF is a hexagon.

(b) Work out the value of *k*.

k = ...
(4)

(Total for Question 17 is 6 marks)

18 (a) Expand $6(4 - 3y)$

....

(b) Factorise $e^2 + 4e$

....

(c) Solve $7x + 8 = 2x - 3$
Show clear algebraic working.

$x = $ ....

(d) Expand and simplify $(y + 10)(y - 2)$

....

(Total for Question 18 is 7 marks)

19 Pritam, Sarah and Emily share some money in the ratios 3 : 6 : 4
Sarah gets $15 more than Emily.

Work out the amount of money that Pritam gets.

$ ....

(Total for Question 19 is 3 marks)

20 (a) Solve the inequalities $-5 < x + 4 \leqslant 3$

....
(2)

(b) n is an integer.
Write down all the values of n that satisfy $-3 \leqslant n < 2$

....
(2)

(Total for Question 20 is 4 marks)

21

11.3 cm

39°

x cm

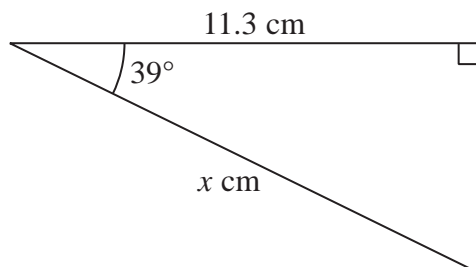Diagram **NOT**
accurately drawn

Work out the value of x.
Give your answer correct to 2 decimal places.

$x = $ ....

(Total for Question 21 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

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