Centre No.					
Candidate No.					

Paper Reference						
4	4	0	0	/	2	F

Surname	Initial(s)
Signature	

Examiner's use only

Team Leader's use only

Paper Reference(s)

4400/2F

London Examinations IGCSE

Mathematics

Paper 2F

Foundation Tier

Tuesday 11 May 2004 – Morning

Time: 2 hours

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator.
Tracing paper may be used.

Items included with question papers
Nil

Instructions to Candidates

In the boxes above, write your centre number and candidate number, your surname, initial(s) and signature.
The paper reference is shown at the top of this page. Check that you have the correct question paper.
Answer **ALL** the questions in the spaces provided in this question paper.
Show all the steps in any calculations.

Information for Candidates

There are 20 pages in this question paper. All blank pages are indicated.
The total mark for this paper is 100. The marks for parts of questions are shown in round brackets: e.g. **(2)**.
You may use a calculator.

Advice to Candidates

Write your answers neatly and in good English.

Page Numbers	Leave Blank
3	
4	
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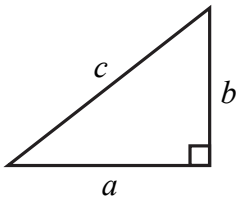
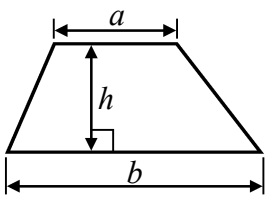
IGCSE MATHEMATICS 4400

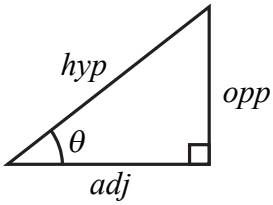
FORMULA SHEET – FOUNDATION TIER

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



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





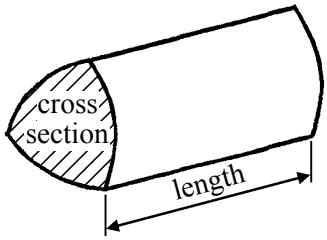
adj = hyp × cos θ
opp = hyp × sin θ
opp = adj × tan θ

or $\sin\theta = \frac{\text{opp}}{\text{hyp}}$

$\cos\theta = \frac{\text{adj}}{\text{hyp}}$

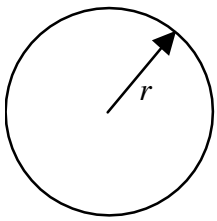
$\tan\theta = \frac{\text{opp}}{\text{adj}}$

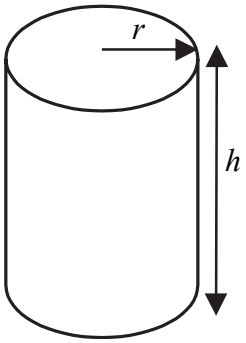
Volume of prism = area of cross section × length



Circumference of circle = $2\pi r$

Area of circle = πr^2





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

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

Answer ALL TWENTY FIVE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

Leave blank

1. (a) Write down all the factors of 15.

.....

(2)

(b) Write down all the multiples of 4 which are between 15 and 25.

.....

(2)

(c) Write down all the prime numbers which are between 15 and 25.

.....

(2)

(d) Write down the first square number which is greater than 25.

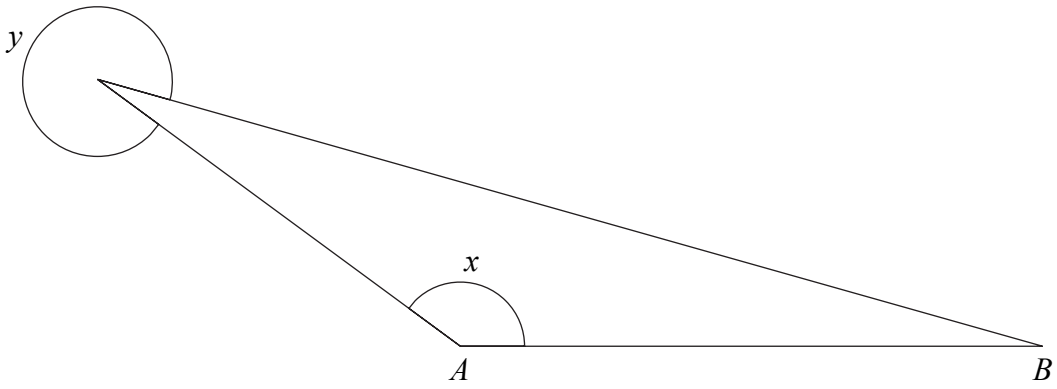
.....

(1)

Q1

(Total 7 marks)

2.



Leave blank

(a) Measure the length of the side AB of the triangle.
Give your answer to the nearest millimetre.

..... cm
(1)

(b) (i) What type of angle is angle x?

.....

(ii) Measure the size of angle x.

°
.....
(2)

(c) (i) What type of angle is angle y?

.....

(ii) Find the size of angle y.

°
.....
(2)

Q2

(Total 5 marks)

3. The word formula gives the time, in minutes, needed to cook a turkey.

Leave blank

Time = 40 × weight in kg + 20

A turkey has a weight of 3.5 kg.

(a) Work out the time, in minutes, needed to cook this turkey.

..... min
(2)

The time needed to cook a different turkey is 260 minutes.

(b) Work out the weight of the turkey.

..... kg
(2)

A time of T minutes is needed to cook a turkey with a weight of W kg.

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

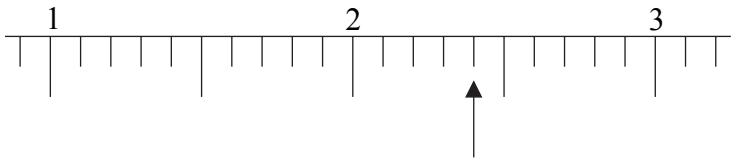
.....
(2)

Q3

(Total 6 marks)

4.

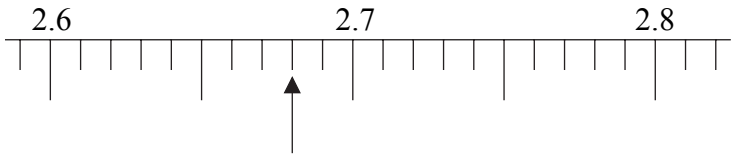
Leave blank



(a) Write down the number marked with an arrow.

.....

(1)



(b) Write down the number marked with an arrow.

.....

(1)

(c) Round 7.298 to the nearest whole number.

.....

(1)

(d) Write these numbers in order of size.
Start with the smallest.

0.71 0.701 0.071 0.7 0.07

.....

(1)

(e) Write the number 8.362 correct to 1 decimal place.

.....

(1)

(f) Write 0.19 as a fraction.

.....

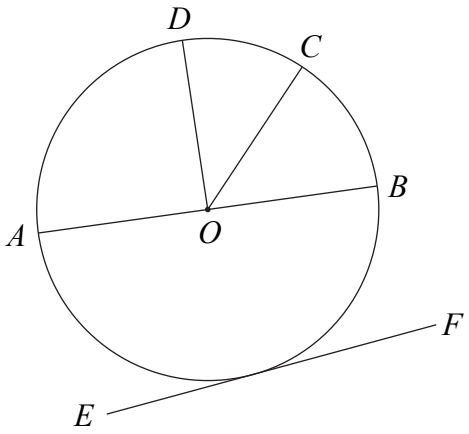
(1)

Q4

(Total 6 marks)

5. In the diagram, the points A, B, C and D lie on the circumference of a circle, centre O.
The line EF touches the circle.

Leave blank



Write down the special name for

(i) the line AB,

.....

(ii) the part of the circumference of the circle between C and D,

.....

(iii) the line EF.

.....

(Total 3 marks)

Q5

6. 52% of the students in a school are boys.

(a) Work out the percentage of the students who are girls.

..... %

(1)

There are 450 students in the school.

(b) Work out 52% of 450

.....

(2)

(Total 3 marks)

Q6

Leave blank

7. Here is a list of the number of cups of coffee drunk by each of nine people on one day.

5 2 4 1 2 8 5 2 3

(a) Find the mode.

.....

(1)

(b) Find the median.

.....

(2)

(c) Work out the range.

.....

(2)

Q7

(Total 5 marks)

8. (a) Simplify $p \times q \times 4$

.....

(1)

(b) Solve $x - 6 = 3$

$x =$ .....

(1)

(c) $V = 3y - 2n$

Work out the value of y when $V = 19$ and $n = 7$.

$y =$ .....

(3)

Q8

(Total 5 marks)

9.

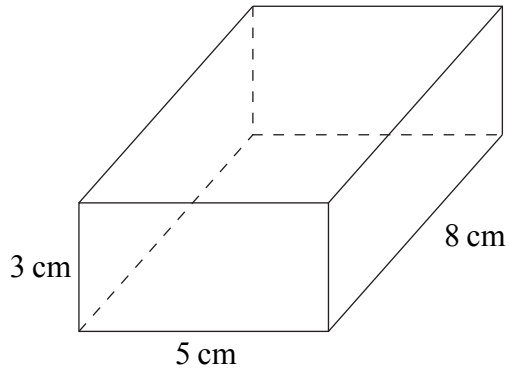


Diagram **NOT** accurately drawn

Leave blank

The diagram shows a cuboid.

(a) For the cuboid, write down

(i) the number of faces,

.....

(ii) the number of vertices.

.....

(2)

(b) Work out the volume of the cuboid.

..... cm^3

(2)

Q9

(Total 4 marks)

10. Two films, *Planet Wars* and *Star Track*, are showing at a cinema.

Leave blank

Planet Wars starts at 1635.

(a) Write 1635 using pm.

..... pm
(1)

The running time of *Planet Wars* is 1 hour 40 minutes.

(b) At what time does *Planet Wars* end?

.....
(1)

The running time of *Star Track* is 80 minutes.
Star Track **ends** at 1710.

(c) At what time does *Star Track* start?

.....
(1)

(d) Find the ratio of the running time of *Planet Wars* to the running time of *Star Track*.
Give your answer in its simplest form.

.....
(2)

Q10

(Total 5 marks)

Leave blank

11. There are 15 counters in a bag.

8 of the counters are red.
4 of the counters are blue.
The rest of the counters are green.

Lee chooses a counter at random from the bag.

(a) Write down the probability that he will choose a red counter.

.....
(2)

Lee removes a blue counter from the bag of 15 counters and does not replace it.
He then chooses a counter at random from the bag.

(b) Work out the probability that he will choose a blue counter.

.....
(2)

Q11

(Total 4 marks)

12. Paul flew from the UK to South Africa for a holiday.
The exchange rate was £1 = 11.85 Rand.
He changed £1200 into Rand.

(a) How many Rand did he get?

..... Rand
(2)

After his holiday, Paul changed 1659 Rand back into pounds.
The exchange rate was still £1 = 11.85 Rand.

(b) How many pounds did he get?

£ .....
(2)

Q12

(Total 4 marks)

Leave blank

13. $C = 10 - 3x$

Work out the value of C when $x = 2.7$

$C =$ .....

(Total 2 marks)

Q13

14. Work out the value of $\dfrac{6.1 + 3.4}{5.7 - 1.9}$

.....

(Total 2 marks)

Q14

15. Suhail cycles 117 km in 4 hours 30 minutes.
Work out his average speed in km/h.

..... km/h

(Total 3 marks)

Q15

Leave blank

16. The mean height of a group of 4 girls is 158 cm.

(a) Work out the total height of the 4 girls.

..... cm
(1)

Sarah joins the group and the mean height of the 5 girls is 156 cm.

(b) Work out Sarah's height.

..... cm
(3)

(Total 4 marks)

Q16

17. Plumbers' solder is made from tin and lead.
The ratio of the weight of tin to the weight of lead is 1 : 2

(a) Work out the weight of tin and the weight of lead in 120 grams of plumbers' solder.

tin ..... g

lead ..... g
(2)

(b) What weight of plumbers' solder contains 25 grams of tin?

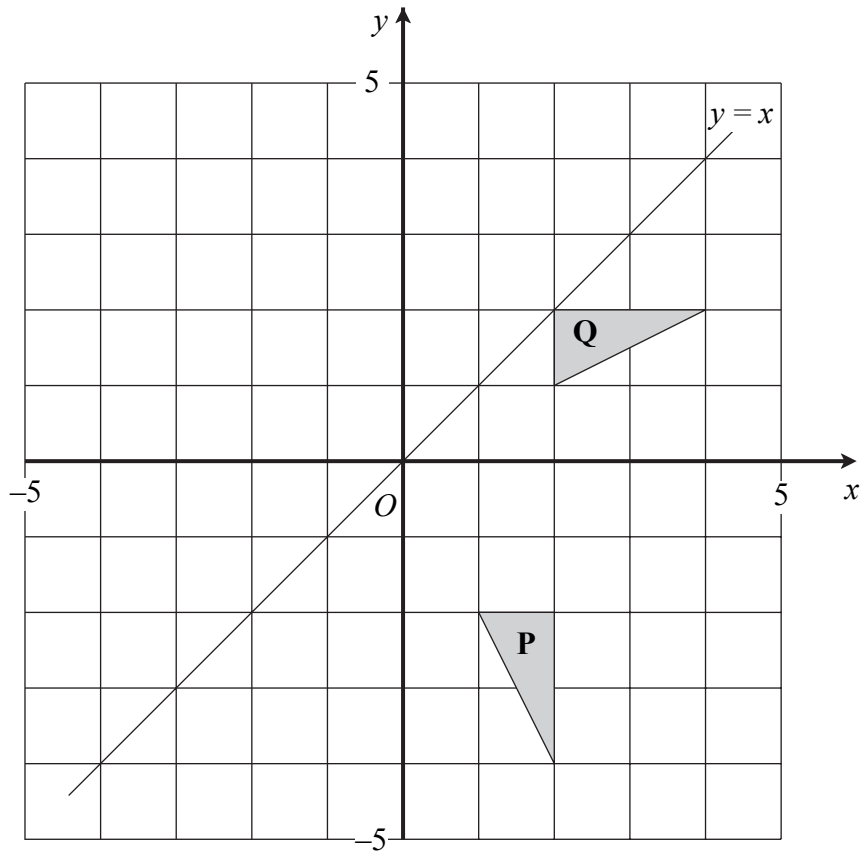
..... g
(1)

(Total 3 marks)

Q17

18.

Leave blank



(a) Describe fully the single transformation which maps triangle **P** onto triangle **Q**.

.....

.....

(3)

(b) Reflect triangle **Q** in the line with equation $y = x$.

(2)

Q18

(Total 5 marks)

19. This formula is used in science.

Leave blank

$$v = \sqrt{2gh}$$

Hanif uses the formula to work out an estimate for the value of v without using a calculator when $g = 9.812$ and $h = 0.819$

Write down approximate values for g and h that Hanif could use.

approximate value for g .....

approximate value for h .....

(Total 2 marks)

Q19

20. (a) Simplify $n \times n \times n \times n$

.....

(1)

(b) Simplify $p^2 \times p^5$

.....

(1)

(c) Simplify $\frac{q^7}{q^3}$

.....

(1)

Q20

(Total 3 marks)

Leave blank

21. Work out $2\frac{2}{5} \times 1\frac{7}{8}$

Give your answer as a mixed number in its simplest form.

Q21

.....

(Total 3 marks)

22. Solve $4(x - 3) = 7x - 10$

Q22

$x =$ .....

(Total 3 marks)

23.

Leave blank

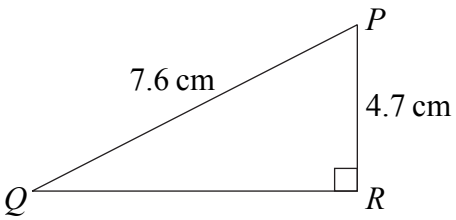


Diagram **NOT** accurately drawn

Triangle PQR is right-angled at R.
$PR = 4.7$ cm and $PQ = 7.6$ cm.

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

° .....

(3)

The length, 7.6 cm, of PQ is correct to 2 significant figures.

(b) (i) Write down the upper bound of the length of PQ.

..... cm

(ii) Write down the lower bound of the length of PQ.

..... cm

(2)

Q23

(Total 5 marks)

24.

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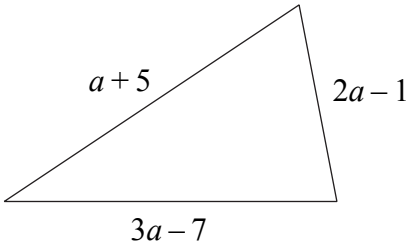

The lengths, in cm, of the sides of a triangle are $(a + 5)$, $(3a - 7)$ and $(2a - 1)$.
The perimeter of the triangle is 24 cm.
Work out the value of a.

Q24

$a =$ .....

(Total 3 marks)

25. Here is a fair 3-sided spinner.

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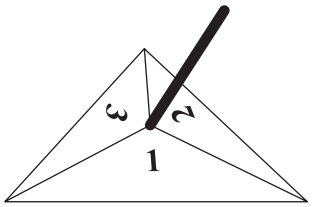

Its sides are labelled 1, 2 and 3 as shown.

(a) Vikram is going to spin the spinner once.

Write down the probability that it will land on

(i) 2,

.....

(ii) a number less than 3,

.....

(iii) a number greater than 4.

.....

(3)

(b) Aisha is going to spin the spinner twice.
Work out the probability that it will land on 1 both times.

.....

(2)

Q25

(Total 5 marks)

TOTAL FOR PAPER: 100 MARKS

END

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