Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						4	4	0	0	/	2	F	Signature	

Paper Reference(s)

4400/2F

Examiner's use only

Team Leader's use only

London Examinations IGCSE

Mathematics

Paper 2F

Foundation Tier

Tuesday 20 May 2008 – Afternoon

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, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.
If you need more space to complete your answer to any question, use additional answer sheets.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 23 questions in this question paper. The total mark for this paper is 100.
There are 20 pages in this question paper. Any blank pages are indicated.
You may use a calculator.

Advice to Candidates

Write your answers neatly and in good English.

Printer's Log. No.
N26399A
W850/U4400/57570 4/4/6/3

N 2 6 3 9 9 A 0 1 2 0

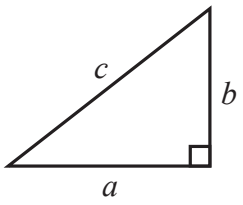
Turn over

edexcel
advancing learning, changing lives

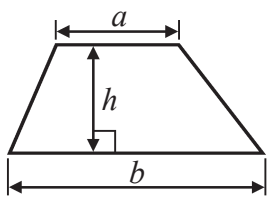
IGCSE MATHEMATICS 4400

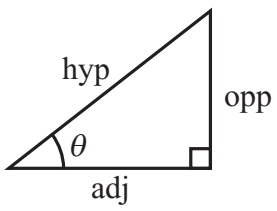
FORMULA SHEET – FOUNDATION TIER

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



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





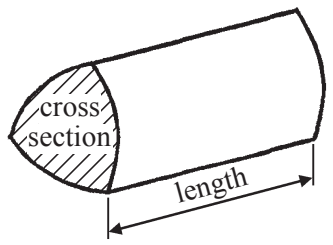
adj = hyp × cos θ
opp = hyp × sin θ
opp = adj × tan θ

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

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

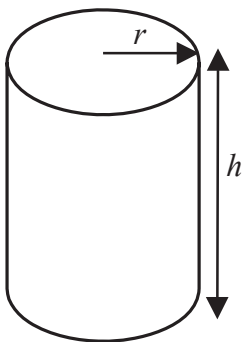
$\tan\theta = \frac{\text{opp}}{\text{adj}}$

Volume of prism = area of cross section × length



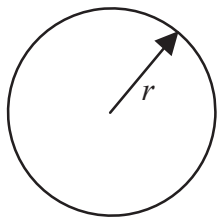
Circumference of circle = $2\pi r$

Area of circle = πr^2



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

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



Leave blank

Answer ALL TWENTY THREE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

Without sufficient working, correct answers may be awarded no marks.

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

1008 800 1800 1080 888

.....

(1)

(b) Which of these numbers is the lowest?

–4 3 –7 8 0

.....

(1)

(c) Which of these numbers are even?

1 8 11 14 25 47

.....

(2)

(d) Write down all the factors of 35

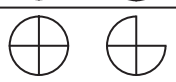
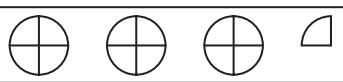
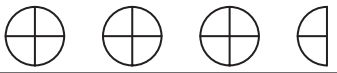
.....

(2) **Q1**

(Total 6 marks)

Leave blank

2. The pictogram shows information about the numbers of footballs sold by some shops during one week.

All Stars	
Big Match	
Corner Kick	
Dave's Sports	
Extra Time	

 represents 4 footballs sold.

(a) How many footballs were sold by All Stars?

.....

(1)

(b) How many footballs were sold by Big Match?

.....

(1)

(c) Which shop sold 14 footballs?

.....

(1)

(d) Extra Time sold 17 footballs. Show this information on the pictogram.

(1)

Q2

(Total 4 marks)

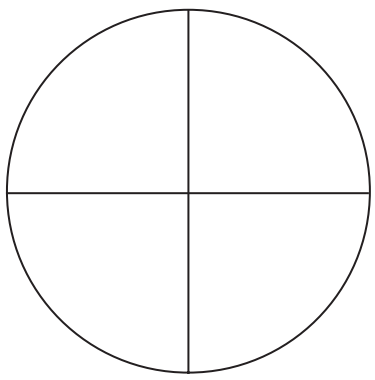
Leave blank

3. (a) What fraction of this shape is shaded?

.....

(1)

(b) Shade 75% of this shape.



(1) **Q3**

(Total 2 marks)

Leave blank

4. (a) Here are the first four terms of a sequence.

3 6 12 24

(i) Write down the next two terms of this sequence.

..... , ...

(2)

(ii) Write down the rule for working out the terms of this sequence.

.....

(1)

(b) The rule for another sequence is "Take away 2"
The first term of this sequence is 10

(i) Find the second and third terms of this sequence.

..... , ...

(2)

(ii) Work out the 6th term of this sequence.

.....

(1)

(iii) Work out the 100th term of this sequence.

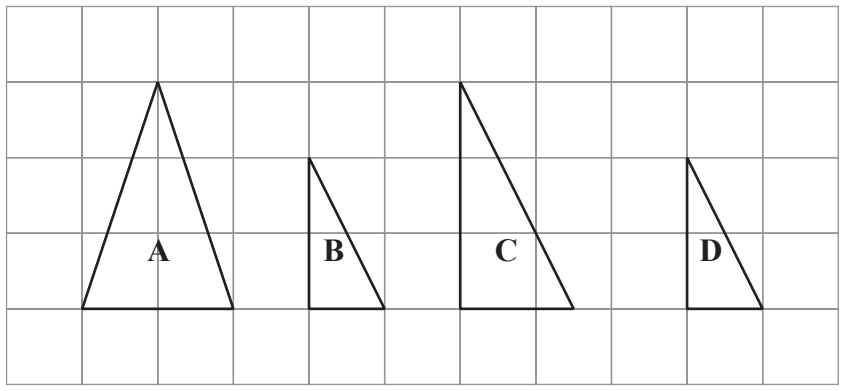
.....

(2) **Q4**

(Total 8 marks)

Leave blank

5. Here are four triangles drawn on a centimetre grid.



(a) Write down the mathematical name for triangle **A**.

.....

(1)

(b) Which two triangles are congruent?

..... , ...

(1)

(c) What type of transformation will map triangle **B** onto triangle **C**?

.....

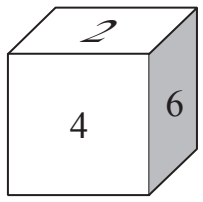
(1)

Q5

(Total 3 marks)

Leave blank

6. A dice has six faces.
Each face has a different number printed on it.
The numbers on the faces are 1, 2, 3, 4, 5 and 6
When the dice is thrown, the number facing upwards is the score.
All scores are equally likely.



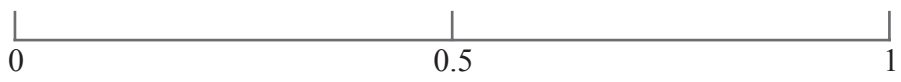
Sushilla throws the dice once.

On the probability scale, mark with a cross (X) the probability that

(i) the score is even.
Label this cross **A**.

(ii) the score is less than 7
Label this cross **B**.

(iii) the score is 5
Label this cross **C**.



Q6

(Total 3 marks)

7. (a) Write down a sensible metric unit for

(i) the height of a bus,

.....
(1)

(ii) the weight of a bus,

.....
(1)

(iii) the area of a football pitch.

.....
(1)

(b) Change 5.2 m^2 into cm^2.

..... cm^2
(2)

Q7

(Total 5 marks)

Leave blank

8. The temperature in Istanbul was 12°C.
The temperature in Warsaw was – 4°C.

(a) How many degrees lower was the temperature in Warsaw than in Istanbul?

.....°C
(2)

(b) The temperature in Helsinki was 3°C lower than in Warsaw.
What was the temperature in Helsinki?

.....°C
(2) **Q8**

(Total 4 marks)

9. A television programme starts at 3.25 pm and ends at 5.10 pm.

(a) Write 3.25 pm using the 24-hour clock.

.....
(1)

(b) Work out the length of the programme, in hours and minutes.

..... hours ..... minutes
(3) **Q9**

(Total 4 marks)

Leave blank

10. *AB* and *CD* are straight lines.

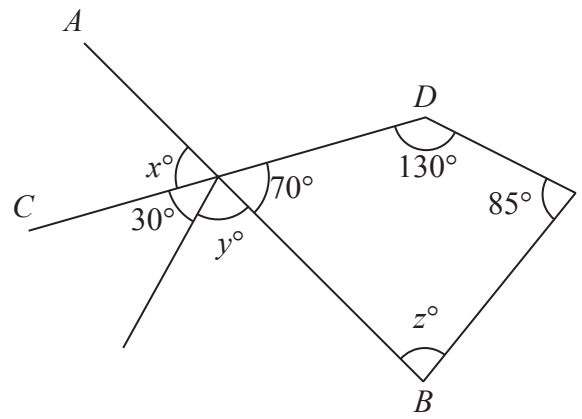


Diagram **NOT** accurately drawn

Find the value of

(a) x

$x =$ .....

(1)

(b) y

$y =$ .....

(2)

(c) z

$z =$ .....

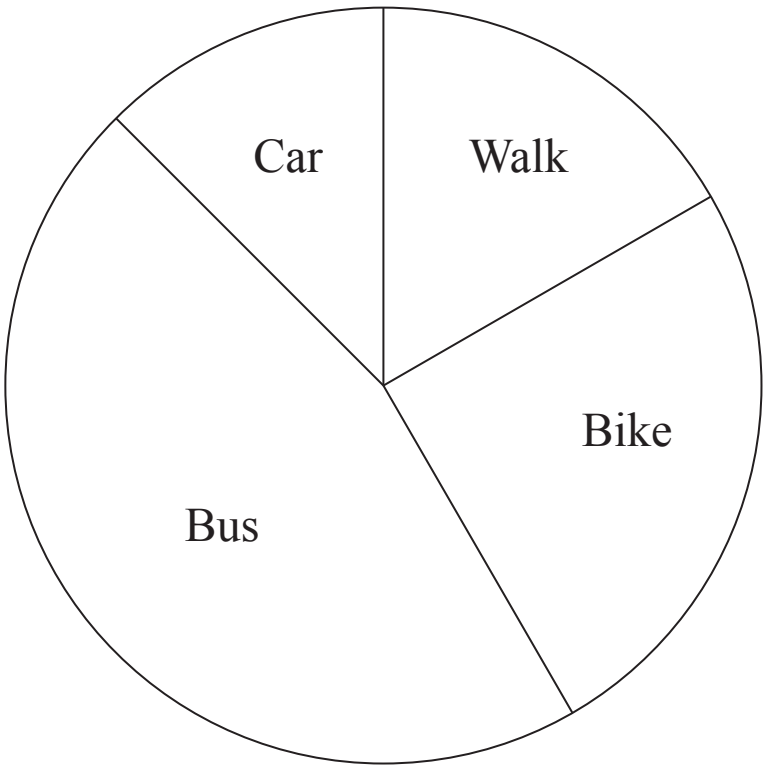
(2)

Q10

(Total 5 marks)

Leave blank

11. The first year students at a college were asked how they travelled to college.
The pie chart shows information about the results.
The pie chart is accurately drawn.



(a) 28 students walk.
Work out the number of students who travel by bike.

.....

(3)

(b) Another pie chart is to be drawn for the second year students.
There are 150 second year students.
50 of these students walk to college.
Calculate the angle in the pie chart for these 50 students.

°

.....

(2) **Q11**

(Total 5 marks)

Leave blank

12. This formula is used to find the total cost of electricity for a month.

$$\text{Total cost} = £0.10 \times \text{number of units} + £4.00$$

(a) In one month Sophia used 580 units.
Calculate her total cost.

£ .....

(3)

(b) Raphael's total cost for a month was £78.60
Calculate the number of units that Raphael used.

.....

(3) **Q12**

(Total 6 marks)

13. The students in a class are divided into 2 groups.
Group A has 15 students.
Group B has 25 students.

(a) Express in its simplest form the ratio 15 : 25

.....

(1)

(b) Find the fraction of the class that are in Group A.
Give your answer in its simplest form.

.....

(2) **Q13**

(Total 3 marks)

Leave blank

14. In this question, you must show sufficient working.

Solve

(a) $3v = 18$

$v =$ .....

(1)

(b) $8w - 7 = 17$

$w =$ .....

(2)

(c) $6x + 13 = 2x + 7$

$x =$ .....

(3)

(d) $\frac{y}{5} - 2 = 4$

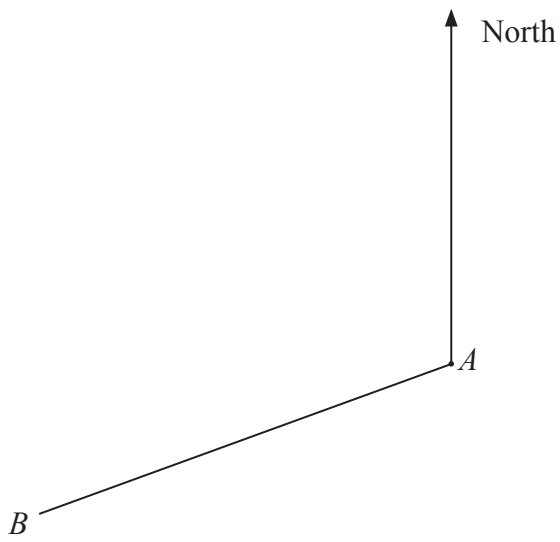
$y =$ .....

(2) **Q14**

(Total 8 marks)

Leave blank

15. The diagram shows two towns, *A* and *B*, on a map.



(a) Measure the bearing of *B* from *A*.

..... °

(2)

(b) *C* is another town.
The bearing of *C* from *A* is 125°.
Find the bearing of *A* from *C*.

..... °

(2)

Q15

(Total 4 marks)

Leave blank

16. The table shows information about the shoe sizes of 20 people.

Shoe size	Number of people
5	3
6	8
7	5
8	2
9	2

(a) Find the median shoe size.

.....

(2)

(b) Exactly 1 of these 20 people has a collar size of 15.

Jean says "If you choose one of these 20 people at random, the probability that this person will have **either** a shoe size of 8 **or** a collar size of 15 is

$$\frac{2}{20}+\frac{1}{20}=\frac{3}{20}$$

Is Jean correct?

.....

Explain your answer.

.....

.....

(2)

(Total 4 marks)

Q16

Leave blank

17. (a) Find the value of $3 - 5x$ when $x = -2$

.....

(2)

(b) Multiply out $5(y - 2)$

.....

(1)

(c) Factorise $w^2 + 5w$

.....

(2) **Q17**

(Total 5 marks)

Leave blank

18. The table shows information about the number of letters delivered to Manjit's house each day.

Number of letters delivered	Probability
0	0.2
1 to 5	0.5
6 to 10	0.2
More than 10	0.1

(a) There are 30 days in June.
Calculate an estimate of the number of days in June on which the number of letters delivered is 0

.....

(2)

(b) Find the probability that on a particular day the number of letters delivered is 6 or more.

.....

(2) **Q18**

(Total 4 marks)

Leave blank

19. Show that

$$\frac{2}{3}+\frac{1}{4}=\frac{11}{12}$$

Q19

(Total 2 marks)

20. (a) Write $3^8 \times 3^6$ as a power of 3

.....

(1)

(b) Write $\frac{7^5}{7^2}$ as a power of 7

.....

(1)

(c) $\frac{5^n \times 5^3}{5^7} = 5^2$

Find the value of n.

$n =$ .....

(2)

Q20

(Total 4 marks)

Leave blank

21. The diagram shows a prism with length 15 cm.
The cross section of the prism is a right-angled triangle with sides 3 cm, 4 cm and 5 cm.

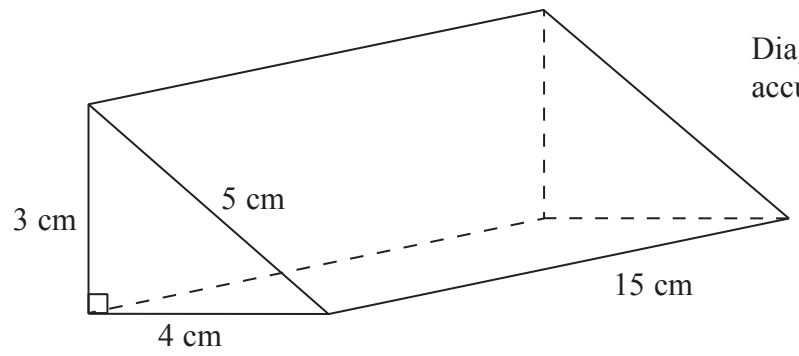


Diagram **NOT** accurately drawn

Calculate the total surface area of the prism.

..... cm^2 **Q21**

(Total 4 marks)

22. Solve the simultaneous equations

$$3x + y = 4$$
$$5x - y = 8$$

You must show sufficient working.

$x =$ .....

$y =$ **Q22**

(Total 3 marks)

Leave blank

23. The diagram shows a circle with centre O and radius 5 cm.

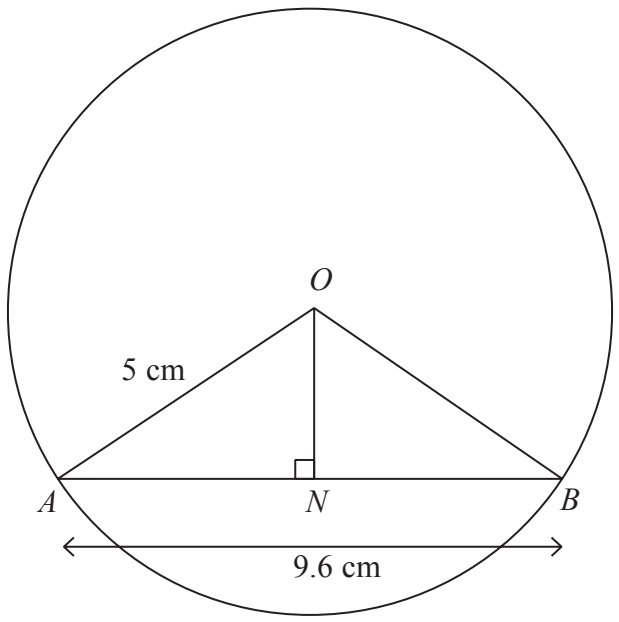


Diagram **NOT** accurately drawn

ANB is a chord of the circle.
$AB = 9.6$ cm.
Angle $ONA = 90°$.

(a) Write down the length of AN.

..... cm
(1)

(b) Calculate the length of ON.

..... cm
(3)

Q23

(Total 4 marks)

TOTAL FOR PAPER: 100 MARKS

END