Centre No.						Paper Reference							Surname Correction	Initial(s)
Candidate No.						1	3	8	0	/	1	F	Signature Mr M Semar	

Paper Reference(s)

1380/1F

Edexcel GCSE

Mathematics (Linear) – 1380

Paper 1 (Non-Calculator)

Foundation Tier

Monday 18 May 2009 – Afternoon

Time: 1 hour 30 minutes

Examiner's use only

Team Leader's use only

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
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 30 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
Calculators must not be used.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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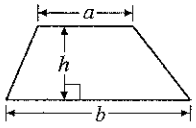
GCSE Mathematics (Linear) 1380

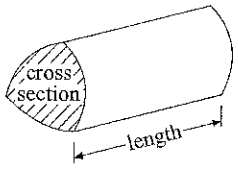
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

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



Volume of prism = area of cross section × length



Leave blank

Answer ALL THIRTY questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1. The pictogram shows the numbers of hours of sunshine in London on Monday, Tuesday and Wednesday of one week.

Monday	○ ○ ○ ○
Tuesday	○ ◐
Wednesday	○ ○
Thursday	◔ ○ ○
Friday	○ ○ ◐

Key: ○ represents 2 hours

(a) Work out the number of hours of sunshine on Monday.

8 hrs

(1)

(b) Work out the number of hours of sunshine on Tuesday.

3 hrs

(1)

There were 6 hours of sunshine on Thursday.
There were 5 hours of sunshine on Friday.

(c) Use this information to complete the pictogram.

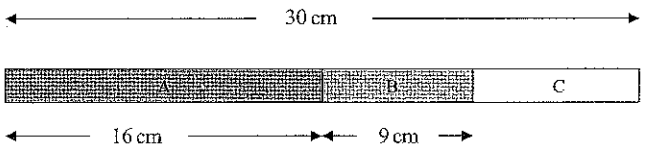
(2)

(Total 4 marks)

Q1

Leave blank

2. Diagram **NOT** accurately drawn



Here is a picture of a stick.
The stick is in three parts, A, B and C.

The total length of the stick is 30 cm.
The length of part A is 16 cm.
The length of part B is 9 cm.

Work out the length of part C.

length = 30 − (16 + 9)
= 30 − 25
= 5

5 ..... cm

(Total 2 marks)

Q2

3. (a) Work out 50% of £60

50% = $\frac{1}{2}$ $\frac{1}{2}$ of 60

£ 30

(1)

(b) Work out 25% of 20 metres.

25% = $\frac{1}{4}$

25% of 20 = $\frac{1}{4} \times 20 = 5$ 5 ..... metres

(1)

(Total 2 marks)

Q3

Leave blank

4. Here is a point P marked with a cross (×).

(a) Draw a line 7 cm long.
Start from the point P.

(1)

(b) On your line, mark with a cross (×) the point which is 3 cm from P.
Label this point Q.

(1)

Q4

(Total 2 marks)

5. Here are the first 4 terms in a number sequence.

124 122 120 118 .....

−2

(a) Write down the next term in this number sequence.

116

120 118 116 114 112

(1)

(b) Write down the 7th term in this number sequence.

112

(1)

9 cannot be a term in this number sequence.

(c) Explain why.

Multiple of 2, all even 9 is odd.

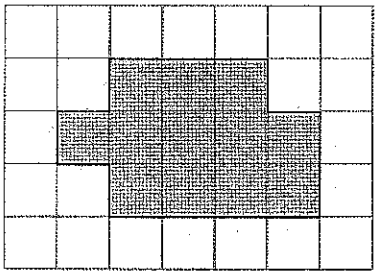
(1)

Q5

(Total 3 marks)

Leave blank

6.



The diagram shows a shaded shape drawn on a centimetre grid.

(a) Work out the perimeter of the shaded shape.

4 + 2 + 1 + 1 + 3 + 1 + 1 + 1 + 1 + 1

16 cm

(1)

(b) Work out the area of the shaded shape.
State the units of your answer.

Area = 12 cm^2

12

(2)

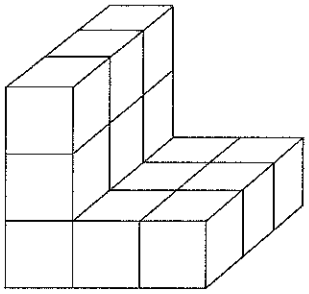
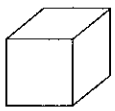


Diagram **NOT** accurately drawn



represents 1 cm^3

Here is a solid prism made of centimetre cubes.

(c) Find the volume of the solid prism.

Number of cubes = 15

15 cm^3

(2)

Q6

(Total 5 marks)

Leave blank

7. The table shows part of a bus timetable from Shotton to Alton.

Shotton	0730	0800	0900	1000	1100
Crook	0745	0815	0915	1015	1115
Prudhoe	0758	0828	0928	1028	1128
Hexham	0815	0845	0945	1045	1145
Alton	0830	0900	1000	1100	1200

A bus leaves Shotton at 0730

(a) What time should it arrive at Alton?

Reading from table 8.30

.....

(1)

Another bus leaves Prudhoe at 0828

(b) How many minutes should it take to get to Hexham?

8.45 − 8.28 17 minutes

(1)

Serena lives in Crook.
She has to be in Hexham by quarter past 11 ie 11.15

(c) What is the time of the latest bus she can catch from Crook to arrive in Hexham by quarter past 11?

She needs to catch the 1015 from Crook 10.15

(1)

(Total 3 marks)

Q7

8. (a) Write the number 4117 in words.

Four thousand, One hundred and seventeen

(1)

(b) Write the number 4117 to the nearest hundred.

4117 = 4100 (100) 4100

(1)

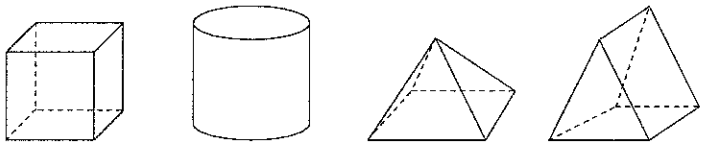
(Total 2 marks)

Q8

Leave blank

9.

Diagram **NOT** accurately drawn



A **B** **C** **D**

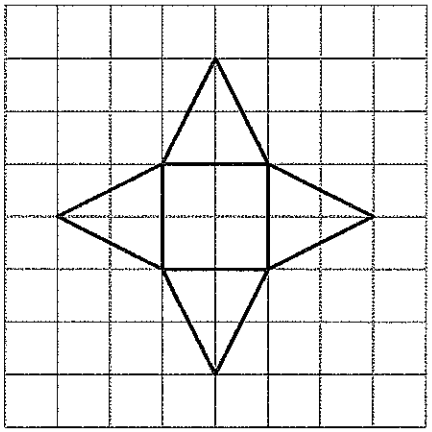
The diagram shows four 3-D solid shapes.

(a) Write down the number of vertices of shape **A**.

↓ corners

5

(1)



Here is the net of one of the shapes, **A**, **B**, **C** or **D**.

(b) Which shape?

C

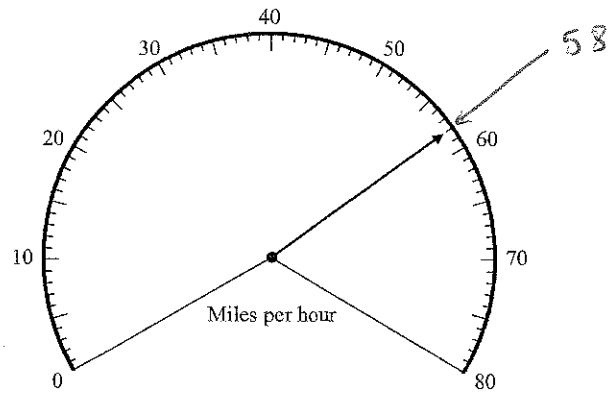
(1)

Q9

(Total 2 marks)

Leave blank

10.

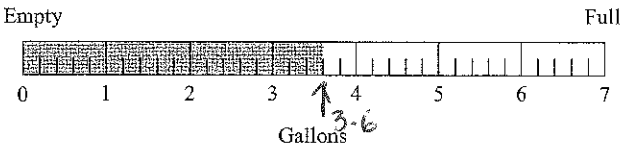


The diagram shows the speed of a car.

(a) Write down the speed of the car.

58 ..... miles per hour
(1)

The scale below shows the amount of fuel in a tank.



(b) Write down the amount of fuel in the tank.

3.6 ..... gallons
(1)

When the tank is full, there are 7 gallons of fuel in the tank.

(c) Work out how much more fuel has to be added to the tank to fill it completely.

7 − 3.6 = 3.4

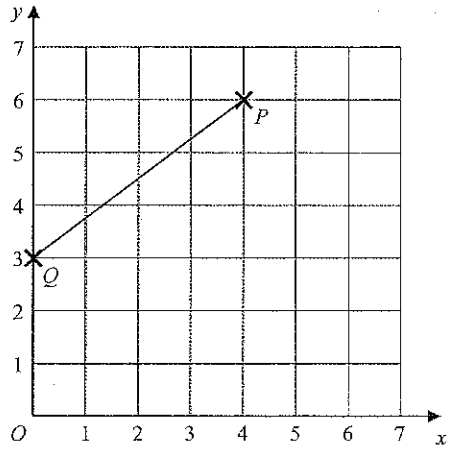
3.4 ..... gallons
(1)

(Total 3 marks)

Q10

Leave blank

11.



(a) Write down the coordinates of the point P.

$(x=4 ; y=6)$

(4 , 6)

(1)

(b) Write down the coordinates of the point Q.

$x=0 \quad y=3$

(0 , 3)

(1)

M is the midpoint of the line from Q to P.

(c) Find the coordinates of M.

$$M\left(\frac{4+0}{2} ; \frac{6+3}{2}\right) = (2 ; 4.5)$$

(2 , 4.5)

(2)

(Total 4 marks)

Q11

Leave blank

12.

City	Temperature
Cardiff	−2 °C
Edinburgh	−4 °C
Leeds	2 °C
London	−1 °C
Plymouth	5 °C

The table gives information about the temperatures at midnight in 5 cities.

(a) Write down the lowest temperature.

−4 ..... °C

(1)

(b) Work out the difference in temperature between Cardiff and Plymouth.

5 − −2 = 5 + 2

7 ..... °C

(1)

(c) Work out the temperature which is halfway between −1°C and 5°C.

$\frac{5 - -1}{2} = \frac{6}{2} = 3$

−1 + 3 = 2°C

2 ..... °C

(1)

Q12

(Total 3 marks)

5
← halfway
0
−1

Leave blank

13.

Impossible	Unlikely	Even	Likely	Certain

Which word from the box best describes the likelihood of each of these events?

(a) You throw an ordinary dice and get an eight.

↓ (1 to 6)

Impossible

(1)

(b) You throw a coin and get a Heads.

P(H) = 1/2

Even

(1)

(c) December 6th 2008 is the day after December 5th 2008

Certain

(1)

Q13

(Total 3 marks)

14. (a) Work out $4 \times 5 - 8$

4 × 5 = 20

20 − 8

12

(1)

(b) Work out $18 + 2 \times 3$

2 × 3 = 6

18 + 6 = 24

24

(1)

(c) Work out $(4 + 3) \times 7$

4 + 3 = 7

7 × 7 = 49

49

(1)

Q14

(Total 3 marks)

Leave blank

15. (a) Simplify $8x - 4x$ $= 4x$

$4x$

(1)

(b) Simplify $y \times y \times y$ $= y^3$

y^3

(1)

(c) Simplify $4x + 3y - 2x + 5y$

$4x - 2x + 3y + 5y$

$2x + 8y$

$2x + 8y$

(2)

Q15

(Total 4 marks)

Leave blank

16.

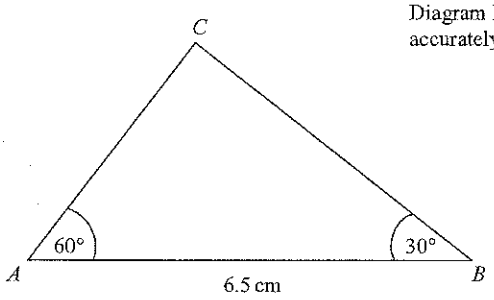
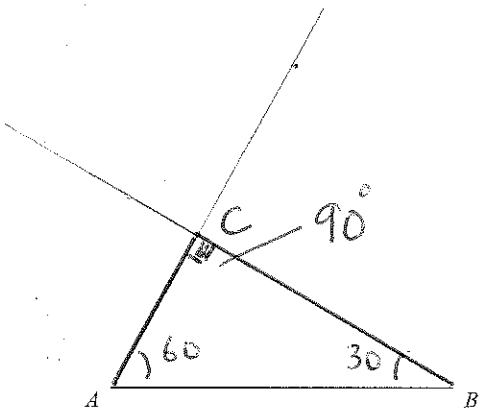


Diagram **NOT** accurately drawn

(a) Make an accurate drawing of triangle *ABC*.
The side *AB* has already been drawn for you.



(2)

(b) Measure the size of the angle at *C* in your triangle.

60 + 30 = 90
90 + 90 = 180

90° .....

(1)

Q16

(Total 3 marks)

Leave blank

17. Work out 36×24

$$\begin{array}{r} 36 \\ \times\ 24 \\ \hline = 144 \\ +\ 720 \\ \hline 864 \end{array}$$

2

864

(Total 3 marks)

Q17

18.

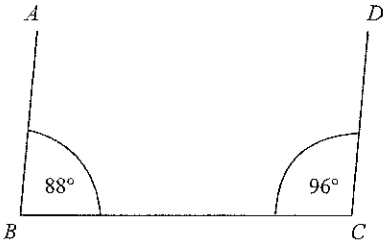


Diagram **NOT** accurately drawn

James says, "The lines *AB* and *DC* are parallel."
Ben says, "The lines *AB* and *DC* are **not** parallel."

Who is right, James or Ben?

$88 + 96 = 184$ Ben

Give a reason for your answer.

If AB is parallel to DC then 88 + 96 must equal 180 (which is not the case).

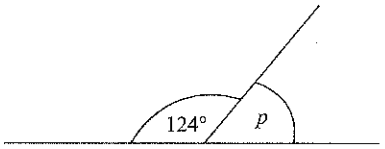
(Total 2 marks)

Q18

Leave blank

19.

Diagram **NOT** accurately drawn



(a) (i) Work out the size of the angle marked p.

$P = 180 - 124 = 56^\circ$

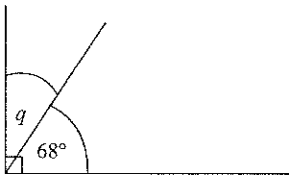
56 °

(ii) Give a reason for your answer.

Angle on straight line add up to 180°

(2)

Diagram **NOT** accurately drawn



(b) Work out the size of the angle marked q.

$q = 90 - 68$

$= 22$

22° °

(1)

(Total 3 marks)

Q19

Leave blank

20. There are 600 counters in a bag.

90 of the counters are yellow.

(a) Work out 90 as a fraction of 600
Give your answer in its simplest form.

$\frac{90}{600} = \frac{9}{60} = \frac{3}{20}$

3/20
.....
(2)

180 of the 600 counters in the bag are red.

(b) Work out 180 as a percentage of 600

$\frac{180}{600} \times 100 = \frac{180}{6} = 30$

30 .....%
(2)

The rest of the counters in the bag are blue or green.
There are twice as many blue counters as green counters.

(c) Work out the number of green counters in the bag.

Number of counters which are blue or green
is $600 - (90 + 180) = 600 - 270 = 330$
(yellow, Red)
We have 330 blue or green.
$330 \div 3 = 110$
blue $2 \times 110 = 220$
Green 110 (Final answer)

220 blue
..... and 110 green (2)
(Total 6 marks)

Q20

Leave blank

21. The two-way table gives some information about how 100 children travelled to school one day.

	Walk	Car	Other	Total
Boy	15	25	14	54
Girl	22	8	16	46
Total	37	33	30	100

(a) Complete the two-way table.

(3)

One of the children is picked at random.

(b) Write down the probability that this child walked to school that day.

$P(\text{walk}) = \frac{37}{100}$

0.37

(1)

One of the girls is picked at random.

(c) Work out the probability that this girl did **not** walk to school that day.

$P(\text{not walk}) = P(\text{car}) \text{ or } P(\text{other})$

$= P(\text{car}) + P(\text{other})$

$= \frac{8}{46} + \frac{16}{46} = \frac{24}{46}$

$\frac{24}{46} = 12/23$

(2)

(Total 6 marks)

Q21

22. Compasses cost c pence each.
Rulers cost r pence each.

Write down an expression for the total cost, in pence, of 2 compasses and 4 rulers.

2 compasses $2c$

4 rulers $4r$

$T = 2c + 4r$

$2c + 4r$ pence

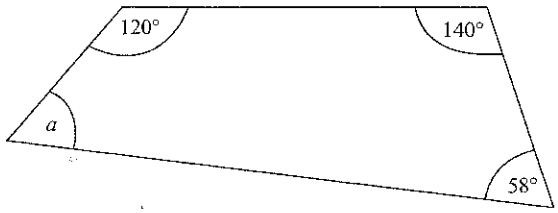
(Total 2 marks)

Q22

Leave blank

23.

Diagram **NOT** accurately drawn



Angles in a quadrilateral add up to 360°

Work out the size of the angle a.

$120 + 140 + 58 + a = 360$

$a = 360 - (120 + 140 + 58)$

$a = 42$

42 °

(Total 2 marks)

Q23

24. (a) Solve $4x + 1 = 9$

$4x + 1 - 1 = 9 - 1$

$4x = 8$

$x = 2$

$x =$ 2

(2)

(b) Solve $2y - 1 = 12$

$2y - 1 + 1 = 12 + 1$

$2y = 13$

$y = \frac{13}{2} = 6.5$ $y =$ 13/2 = 6.5

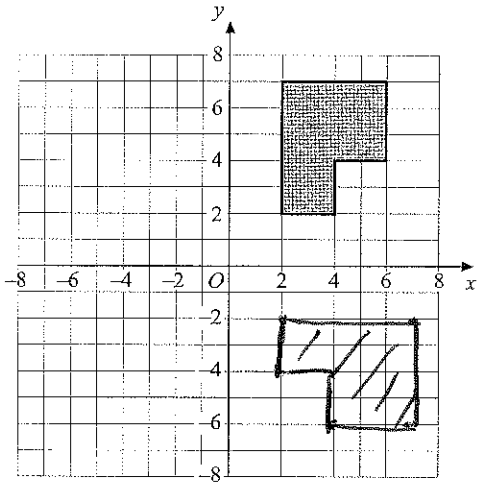
(2)

(Total 4 marks)

Q24

Leave blank

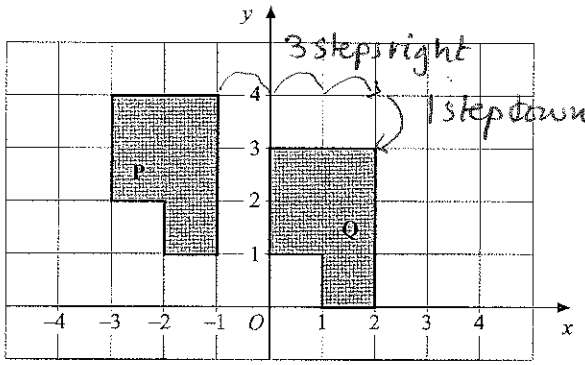
25.



90° Clockwise

(a) Rotate the shaded shape 90° clockwise about the point O.

(2)



(b) Describe fully the single transformation that will map shape **P** onto shape **Q**.

Translation 3 to the right and one down

$\vec{v}\begin{pmatrix}3\\-1\end{pmatrix}$

(2)

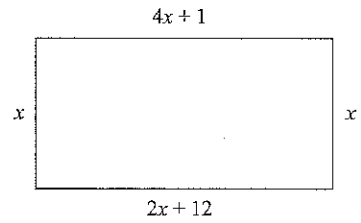
(Total 4 marks)

Q25

Leave blank

26.

Diagram **NOT** accurately drawn



The diagram shows a rectangle.
All the measurements are in centimetres.

(a) Explain why $4x + 1 = 2x + 12$

Equal lengths in a rectangle (opposite sides =)

(1)

(b) Solve $4x + 1 = 2x + 12$

$4x + 1 - 2x = 2x - 2x + 12$

$2x + 1 = 12$

$2x + 1 - 1 = 12 - 1$

$2x = 11$

$x = \frac{11}{2}$ $x = \frac{11}{2} = 5.5$

(2)

(c) Use your answer to part (b) to work out the perimeter of the rectangle. P = Perimeter

$P = x + x + 2x + 12 + 4x + 1$

$P = 8x + 13$

$x = \frac{11}{2}$ $P = 8 \times \frac{11}{2} + 13$

$= 4 \times 11 + 13 = 57$

57 cm

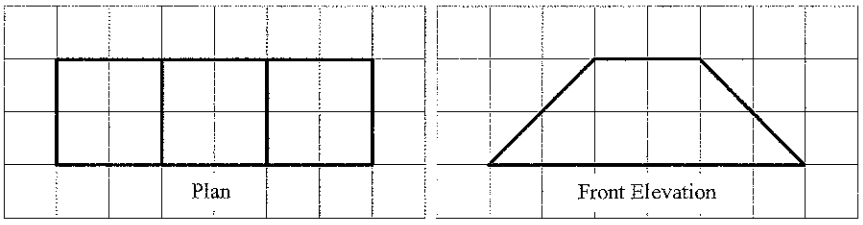
(2)

(Total 5 marks)

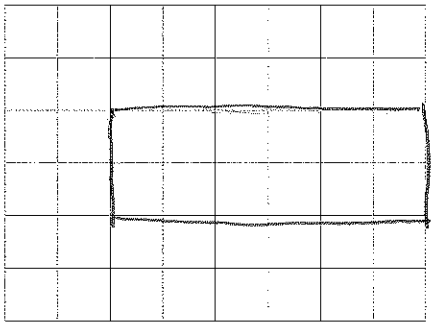
Q26

Leave blank

27. Here are the plan and front elevation of a solid shape.

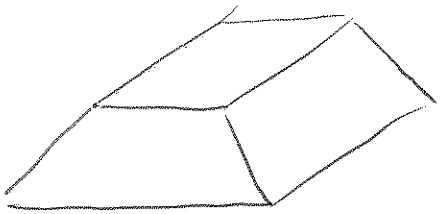


(a) On the grid below, draw the side elevation of the solid shape.



(2)

(b) In the space below, draw a sketch of the solid shape.



(2) Q27

(Total 4 marks)

Leave blank

28. Fred is going to take a survey of the magazines read by students.

He wants to design a questionnaire.

(a) Design a suitable question that he could use to find out what types of magazine students read.

What type of magazine do you read?

(2)

Fred put the question below on his questionnaire.

'How many magazines have you read?'

☐ A few ☐ A lot

(b) Design a better question.
You should include some response boxes.

How many magazines have you read in the last week?

☐ 0 ☐ 1 ☐ 2-3 ☐ over 3

(2)

(Total 4 marks)

Q28

Leave blank

29. Use the information that

$$322 \times 48 = 15456$$

to find the value of

(a) 3.22×4.8 $= \frac{322}{100} \times \frac{48}{10} = \frac{15456}{1000}$ 15.456

(1)

(b) 0.322×0.48

$\frac{322}{1000} \times \frac{48}{100} = \frac{15456}{100000} =$ 0.15456

(1)

(c) $15456 \div 4.8$

$15456 \div 48 = 322$

$15456 \div 4.8 = 3220$ 3220

(1)

(Total 3 marks)

Q29

30. $2x^2 = 72$

(a) Find a value of x.

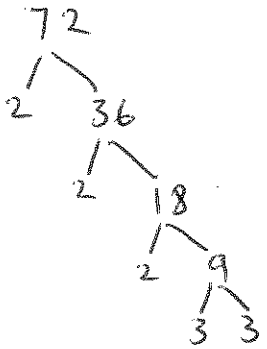
$2x^2 = 72$

$x^2 = \frac{72}{2} = 36$

$x = \pm\sqrt{36} =$ ± 6

(2)

(b) Express 72 as a product of its prime factors.



$2 \times 2 \times 2 \times 3 \times 3$

(2)

(Total 4 marks)

Q30

TOTAL FOR PAPER: 100 MARKS

END