Paper Reference(s)

5521/01

Edexcel GCSE

Mathematics A – 1387

Paper 1 (Non-Calculator)

Foundation Tier

Monday 5 June 2006 – Afternoon

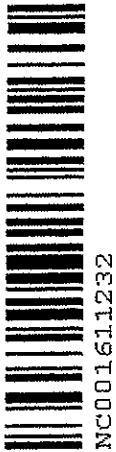Time: 1 hour 30 minutes

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 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 28 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.

Turn over

edexcel

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

Area of trapezium $= \frac{1}{2}(a+b)h$
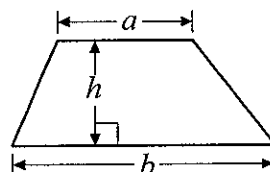
Answer ALL THIRTY questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1. (a) Draw a line 6 cm long in the space below.
   Start from the point labelled *A*.

   A
   ×

   (1)

   (b) Mark with a cross (×), the point on your line which is 2 cm from the point *A*.

   (1) Q1

   (Total 2 marks)

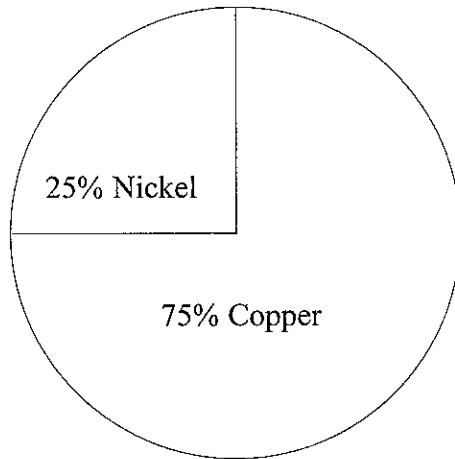2. 33 people were on a bus.

   19 people got off.
   15 people got on.

   How many people are now on the bus?

   .... Q2

   (Total 2 marks)

3.

25% Nickel

75% Copper

The weight of a coin is 25% nickel and 75% copper.

(a) (i) Write 25% as a decimal.

....

(ii) Write 25% as a fraction.
Give your answer in its simplest form.

....

(2)

The weight of a coin is 8 grams.
25% of the weight is nickel and 75% of the weight is copper.

(b) (i) Work out 25% of 8 grams.

.... grams

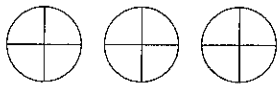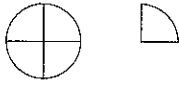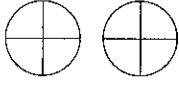(ii) Work out 75% of 8 grams.

.... grams

(2)

(Total 4 marks)

4. The pictogram shows the number of diamond rings sold by a shop in January, February and March.

January	⊕ ⊕ ⊕
February	⊕ ◹
March	⊕ ⊕
April	
May	

Key ⊕ represents 4 diamond rings.

(a) Write down the number of diamond rings sold in January.

....

(1)

(b) Work out how many **more** diamond rings were sold in March than in February.

....

(2)

20 diamond rings were sold in April.
14 diamond rings were sold in May.

(c) Use this information to complete the pictogram.

(2)

(Total 5 marks)

5. Here are the first 5 terms of a number pattern.

$$3 \qquad 7 \qquad 11 \qquad 15 \qquad 19$$

(a) Write down the next term in the number pattern.

....

(1)

(b) Work out the 8th term in the number pattern.

....

(1) Q5

(Total 2 marks)

6.
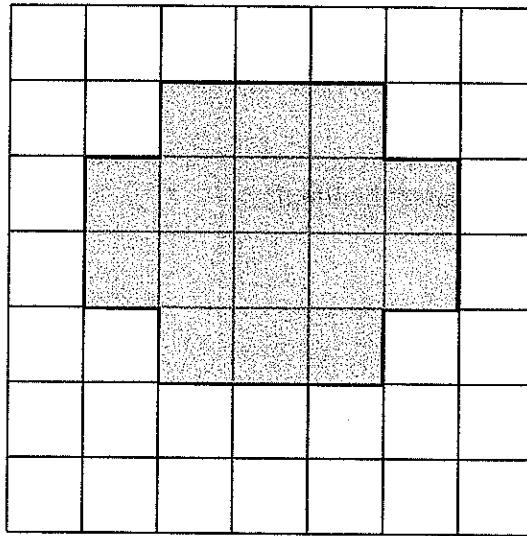
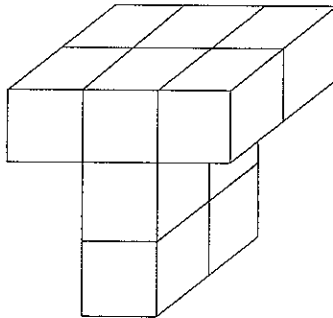The diagram shows a shaded shape drawn on a centimetre grid.

(a) Find the area of the shaded shape.
State the units of your answer.

....
(2)

(b) Find the perimeter of the shaded shape.

.... cm
(1)

The diagram shows a prism made of centimetre cubes.

(c) Find the volume of the prism.

.... cm^3
(2)

Q6

(Total 5 marks)

7. (a) Write the number 5067 in words.

....

(1)

(b) Write the number 1392 to the nearest hundred.

....

(1)

(Total 2 marks)

8. The table shows the distances in kilometres between some cities in the USA.

Boston

1589	Chicago				
4891	3366	Los Angeles			
2474	2184	4373	Miami		
342	1352	4539	2133	New York	
5067	3493	667	4990	4826	San Francisco

(a) Write down the distance between Los Angeles and New York.

.... km

(1)

One of the cities in the table is 2184 km from Miami.

(b) Write down the name of this city.

....

(1)

(c) Write down the name of the city which is furthest from San Francisco.

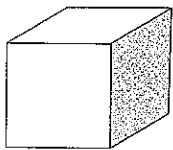...

(1)

(Total 3 marks)
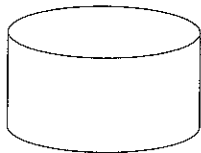
9.
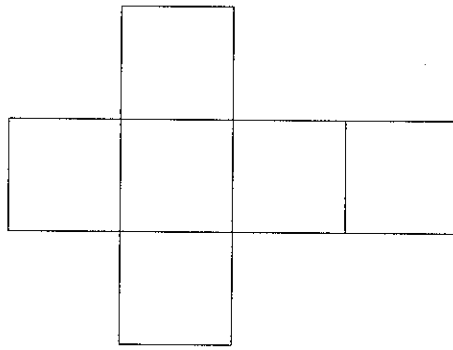
Here is the net of a 3-D shape.

The diagrams show four 3-D shapes.
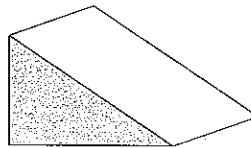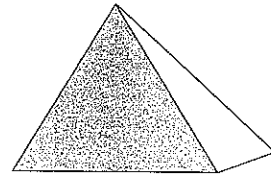
A   **B**   **C**   **D**

Write down the letter of the 3-D shape which can be made from the net.

....

(Total 1 mark)

N 2 2 5 6 7 R A 0 9 2 8

10.

220 gallons

200

180

160

140

120

100

80

60

40

20

0
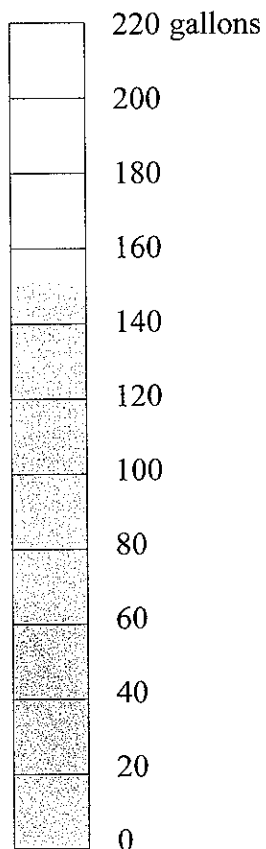
The scale shows how much oil there is in a tank.

(a) Write down an estimate of how much oil is in the tank.

.... gallons

(1)

The tank, when full, holds 220 gallons of oil.

(b) Work out how much oil has to be added to the tank so that it is full.

.... gallons

(1)

Q10

(Total 2 marks)

N 2 2 5 6 7 R A 0 1 0 2 8

11. (a)

Reflect the shaded shape in the mirror line.

mirror line

(1)

(b)
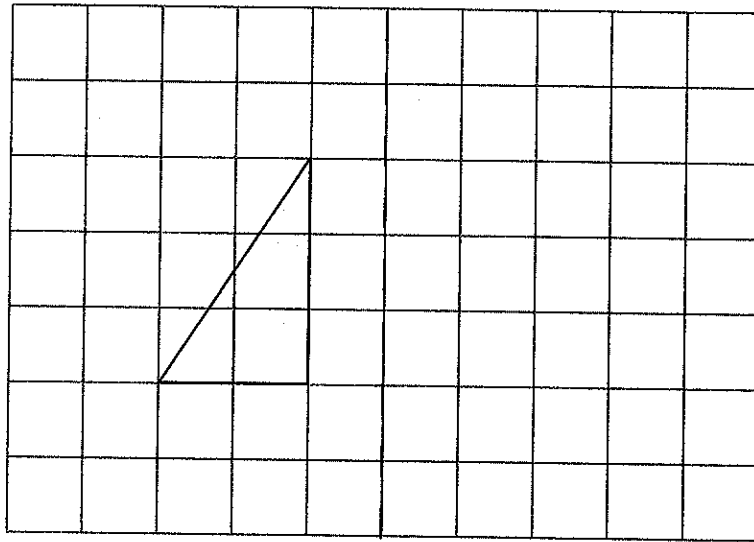
mirror line

Reflect the shaded shape in the mirror line.

(1)

(Total 2 marks)

12.
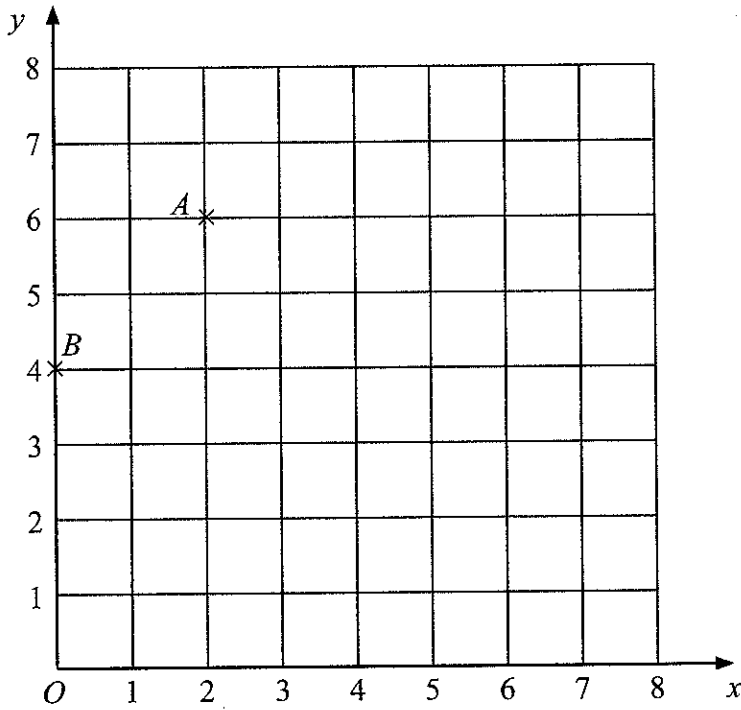
(a) (i) Write down the coordinates of the point A.

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

(ii) Write down the coordinates of the point B.

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

(2)

(b) (i) On the grid, mark the point (6, 4) with the letter P.

(ii) On the grid, mark the point (3, 0) with the letter Q.

(2)

(Total 4 marks)

13. Work out

(i) $2 \times 3 + 4$

....

(ii) $10 - 2 \times 5$

....

(iii) $16 \div (2 \times 4)$

....

(Total 3 marks)

14. At midnight, the temperature was –5°C.

By 9 am the next morning, the temperature had increased by 3°C.

(a) Work out the temperature at 9 am the next morning.

.... °C

(1)

At midday, the temperature was 7°C.

(b) Work out the difference between the temperature at midday and the temperature at midnight.

.... °C

(2)

(c) Work out the temperature which is halfway between –5°C and 7°C.

.... °C

(1) Q14

(Total 4 marks)

15. A newspaper reporter did a survey.
He asked people what was their favourite leisure activity.

The table gives some information about the answers he got.

Favourite leisure activity	Percentage
Home Improvements	22%
Shopping	14%
Gardening	9%
All others	

(a) Complete the table.

(1)

(b) Write 9% as a decimal.

....

(1)

400 people were asked in the survey.

(c) How many people said their favourite leisure activity was gardening?

....

(2) Q15

(Total 4 marks)

16. On the probability scale below, mark

(i) with the letter S, the probability that it will snow in London in June,

(ii) with the letter H, the probability that when a fair coin is thrown once it comes down heads,

(iii) with the letter M, the probability that it will rain in Manchester next year.

```
L_____L_____L
0                                  1
```

Q16
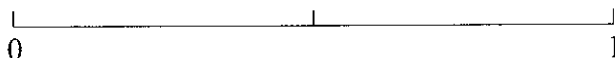
(Total 3 marks)

17. Simplify

(i) $5g - 2g$

....

(ii) $p \times p$

....

(Total 2 marks)

18.

D

5 cm

Diagram **NOT**
accurately drawn

C

4 cm

120°

A   B

8 cm
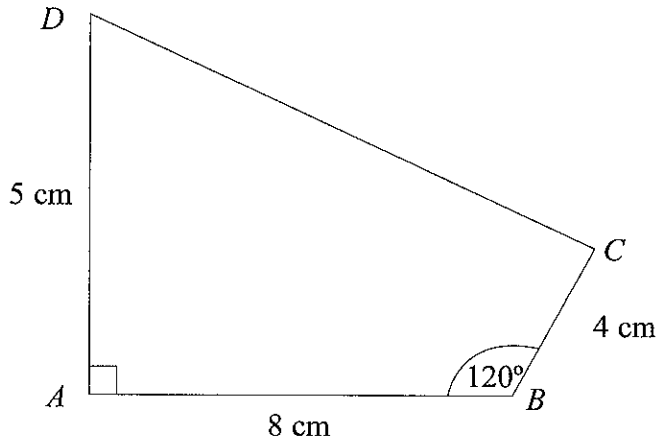
Make an accurate drawing of the quadrilateral *ABCD* in the space below.

The line *AB* has already been drawn for you.

A   B

(Total 4 marks)

19.

A	B
C	D
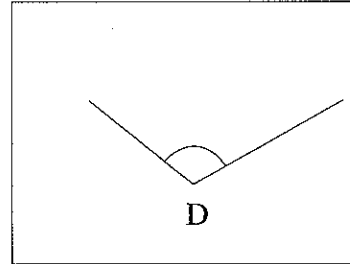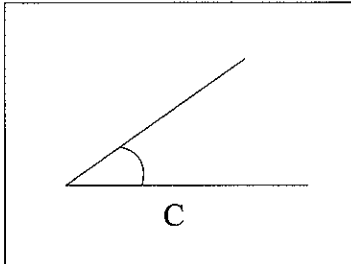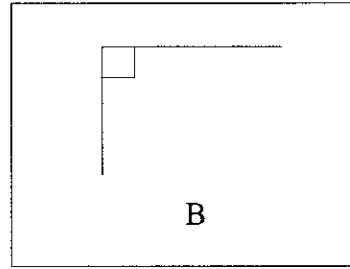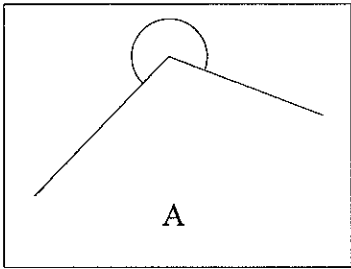
One of the four angles marked in the diagrams above is an obtuse angle.

(a) Write down the letter of the diagram in which the obtuse angle is marked.

....

(1)

Diagram **NOT** accurately drawn

$x°$ $50°$
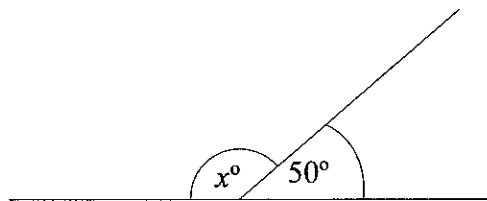
(b) Work out the size of the angle marked $x°$.

.... °

(2)

Q19

(Total 3 marks)

20. 'Jet Tours' has an aeroplane that will carry 27 passengers.

Each of the 27 passengers pays £55 to fly from Liverpool to Prague.

(a) Work out the total amount that the passengers pay.

£ ....

(2)

The distance from Liverpool to Prague is 1200 km.
The flight from Liverpool to Prague lasts 4 hours.

(b) Work out the average speed of the aeroplane.

.... km/h

(2)

(Total 4 marks)

21. A train travels from London to Manchester.

It leaves London at 1655
It arrives in Manchester at 1945

(a) Work out the number of minutes this train takes to travel from London to Manchester.

....

(3)

There are 800 people on the train at Manchester.

$\frac{1}{10}$ of these 800 people are children.

(b) (i) Work out $\frac{1}{10}$ of 800

....

$\frac{3}{8}$ of those 800 people are women.

(ii) Work out $\frac{3}{8}$ of 800

....

The rest of the 800 people are men.

(iii) Work out the number of men on the train.

....

(4)

320 of the 800 people are under 21 years old.

(c) Work out 320 out of 800 as a percentage.

..........................%

(2)

(Total 9 marks)

22. $S = 2p + 3q$

$p = -4$
$q = 5$

(a) Work out the value of S.

$S =$ ....
(2)

$T = 2m + 30$

$T = 40$

(b) Work out the value of m.

$m =$ ....
(2)

(Total 4 marks)

Turn over

23.

10 cm

| 4 cm | | | | 4 cm |
| 2 cm | | | | 2 cm |

4 cm

2 cm

8 cm
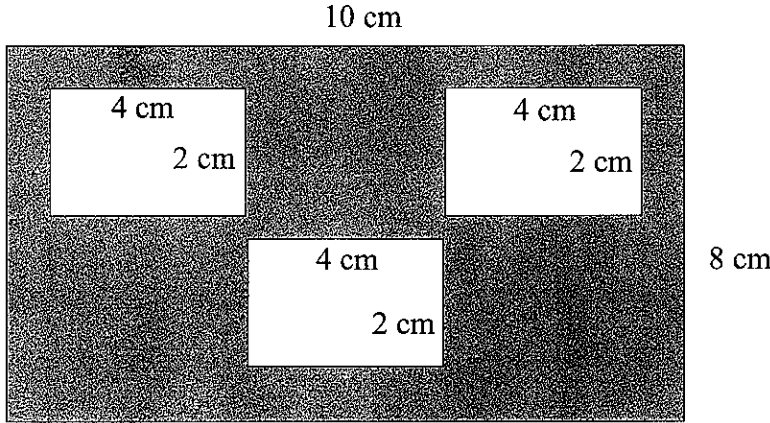
Diagram **NOT** accurately drawn

The diagram shows 3 small rectangles inside a large rectangle.
The large rectangle is 10 cm by 8 cm.
Each of the 3 small rectangles is 4 cm by 2 cm.

Work out the area of the region shown shaded in the diagram.

.... cm²

(Total 3 marks)

24. The two-way table gives some information about the lunch arrangements of 85 students.

	School lunch	Packed lunch	Other	Total
Female	21		13	47
Male		5		
Total	40			85

Complete the two-way table.

(Total 3 marks)

25. Use the information that

$$257 \times 34 = 8738$$

to find the value of

(a) 2.57×34

....

(1)

(b) $873.8 \div 2.57$

....

(1)

(Total 2 marks)

26.
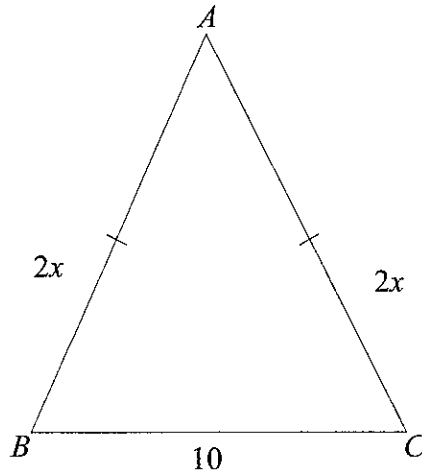
Diagram **NOT** accurately drawn

In the diagram, all measurements are in centimetres.

ABC is an isosceles triangle.
$AB = 2x$
$AC = 2x$
$BC = 10$

(a) Find an expression, in terms of x, for the **perimeter** of the triangle.
Simplify your expression.

....

(2)

The perimeter of the triangle is 34 cm.

(b) Find the value of x.

$x =$ ....

(2)

(Total 4 marks)

27.

(a) On the grid, rotate the shaded shape **P** one quarter turn anticlockwise about *O*.

Label the new shape **Q**.

(3)

(b) On the grid, translate the shaded shape **P** by 2 units to the right and 3 units up.

Label the new shape **R**.

(1)

Q27

(Total 4 marks)

N 2 2 5 6 7 R A 0 2 3 2 8

28. A student wanted to find out how many pizzas adults ate.
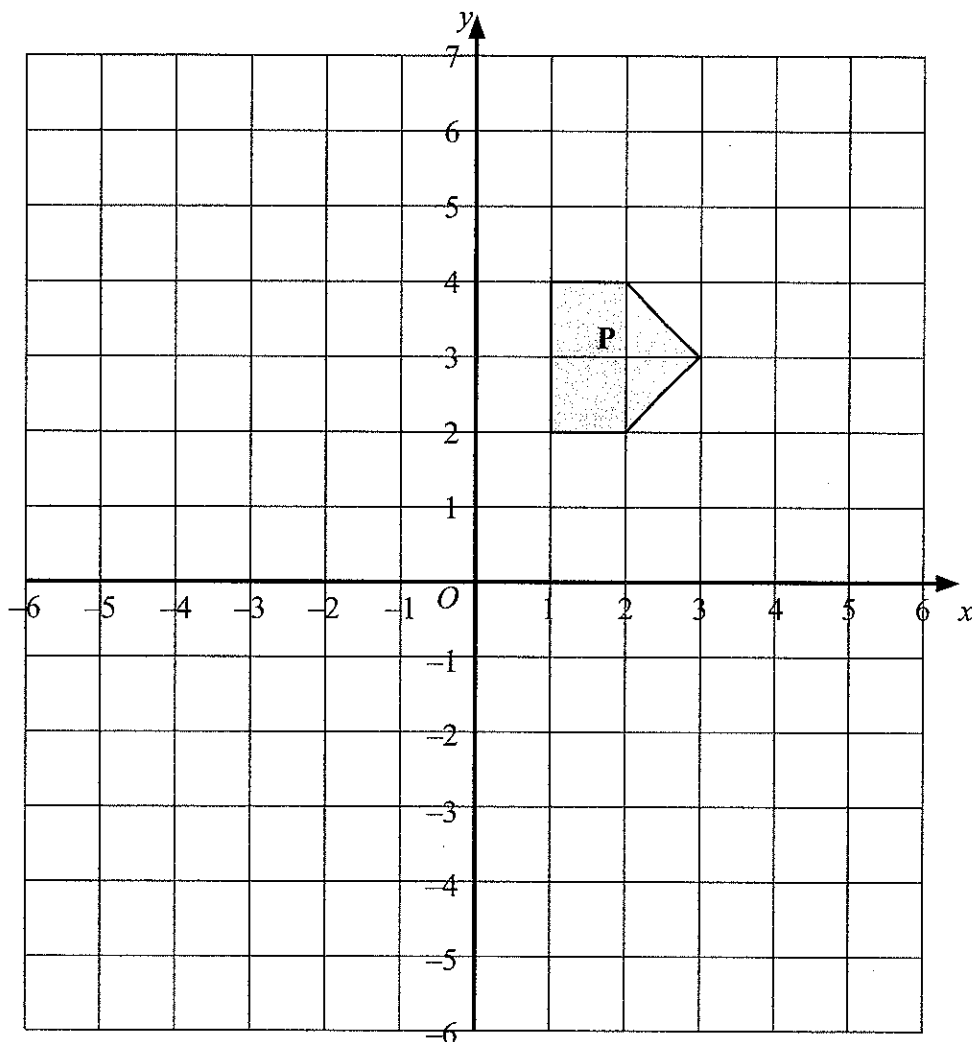
He used this question on a questionnaire.

'How many pizzas have you eaten?'

☐ A few ☐ A lot

(a) Write down **two** things that are wrong with this question.

....

....

....

(2)

He gave his questionnaire to 10 of his teachers.

(b) Give **two** reasons why this is not a good way to find out how many pizzas adults ate.

1st Reason...

....

2nd Reason..

....

(2)

(Total 4 marks)

Q28

29. (a) Solve $4x + 3 = 19$

$x =$ ....
(2)

(b) Solve $4y + 1 = 2y + 8$

$y =$ ....
(2)

(Total 4 marks)

30. Work out $\frac{2}{3} + \frac{1}{5}$

....

(Total 2 marks)

TOTAL FOR PAPER: 100 MARKS

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