

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE
A501/01**

MATHEMATICS A

Unit A (Foundation Tier)

THURSDAY 21 MAY 2015: Morning

DURATION: 1 hour

plus your additional time allowance

MODIFIED ENLARGED 24pt

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Scientific or graphical calculator

Geometrical instruments

Tracing paper (optional)

<p>You are permitted to use a calculator for this paper</p>
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READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.

Use black ink. HB pencil may be used for graphs and diagrams only.

Answer ALL the questions.

Read each question carefully. Make sure you know what you have to do before starting your answer.

Your answers should be supported with appropriate working. Marks may be given for a correct method even if the answer is incorrect.

Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).

INFORMATION FOR CANDIDATES

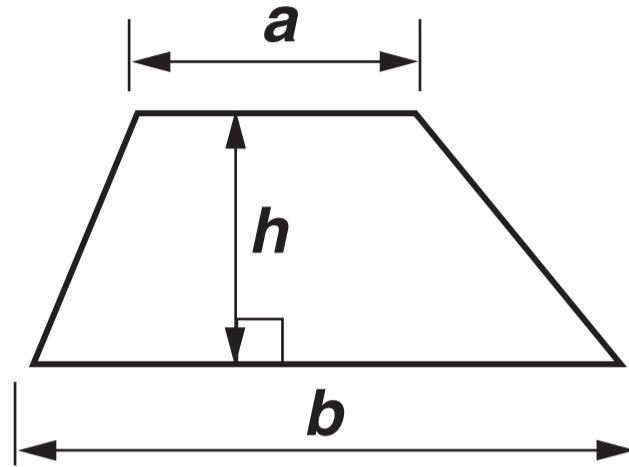
The number of marks is given in brackets [] at the end of each question or part question.

The total number of marks for this paper is 60.

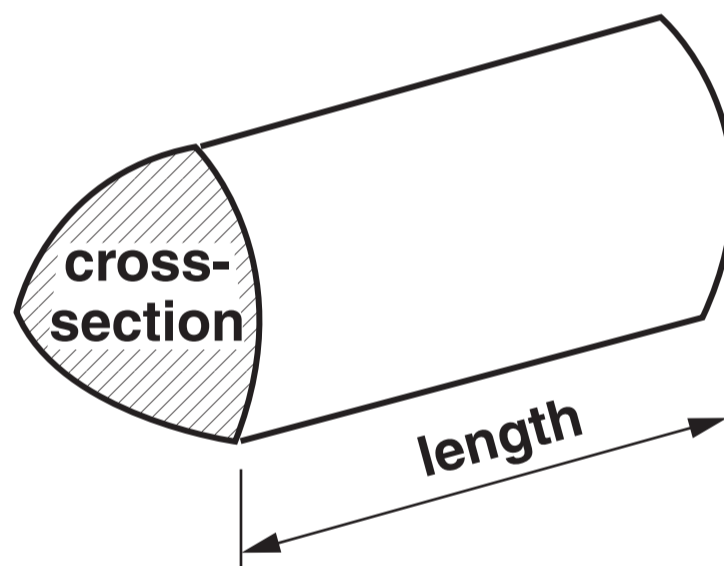
Any blank pages are indicated.

FORMULAE SHEET: FOUNDATION TIER

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



Volume of prism =
(area of cross-section) \times length



1 From the numbers 30 to 39, choose

(a) a multiple of 5,

(a) _____ [1]

(b) a square number,

(b) _____ [1]

(c) a prime number.

(c) _____ [1]

2 Choose from these units to complete the following statements.

mm	g	litres	km
cm ³	m	kg	

A small bird weighs 9 _____ .

The length of a desk is 900 _____ .

When full, a bucket holds 20 _____ .

The length of a cross-country running race
is 6 _____ .

[4]

3 Opposite is a coordinate grid.

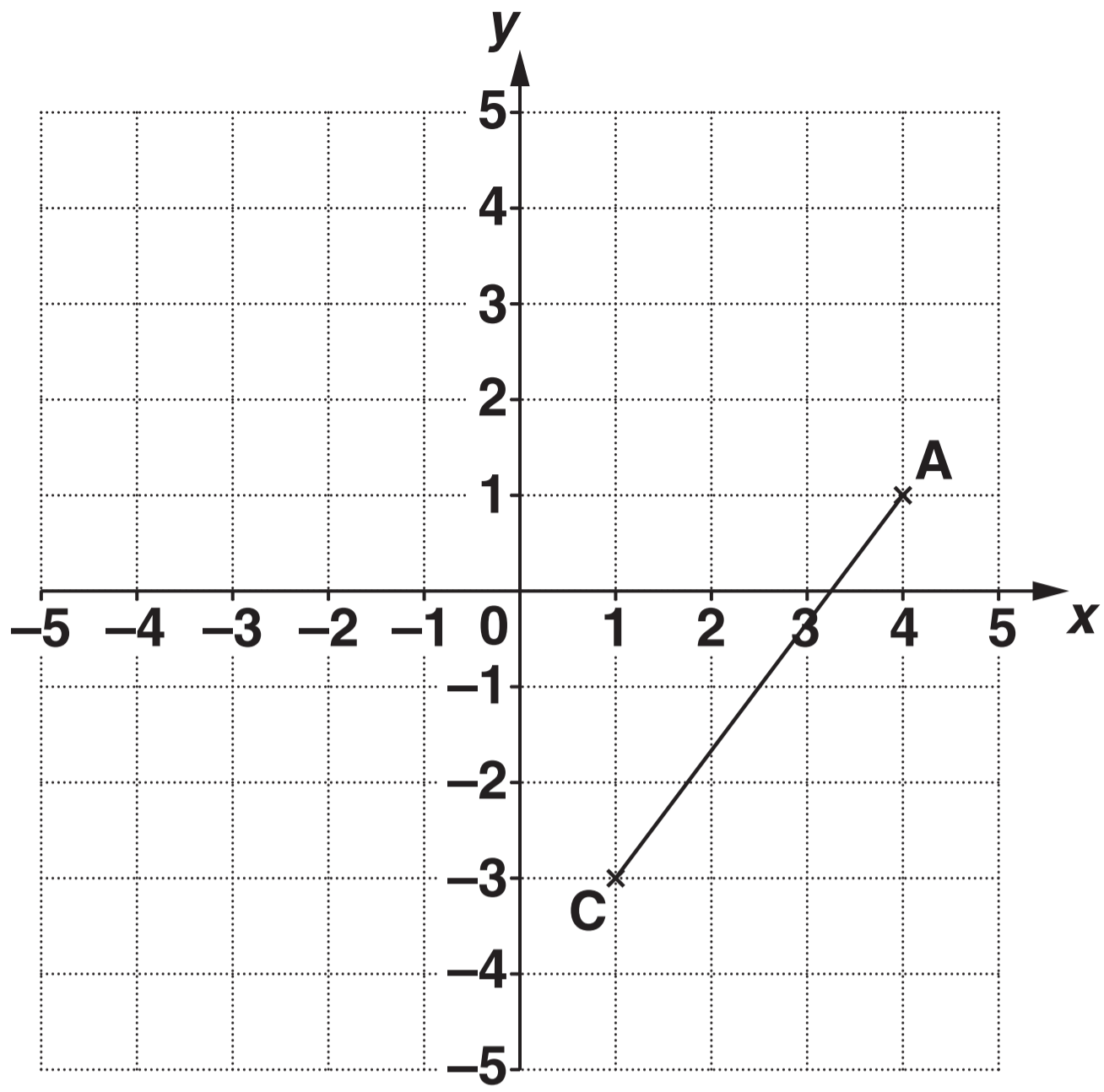
(a) Write down the coordinates of point A.

(a) (_____, _____) [1]

(b) Plot the point $(-3, -4)$. Label it B. [1]

(c) Find the coordinates of the midpoint of AC.

(c) (_____, _____) [2]



4 The bar chart opposite shows the amounts that Paul and Sumita spent on their holidays.

(a) Paul spent £120 on entertainment.

Complete the bar chart to show this information. [1]

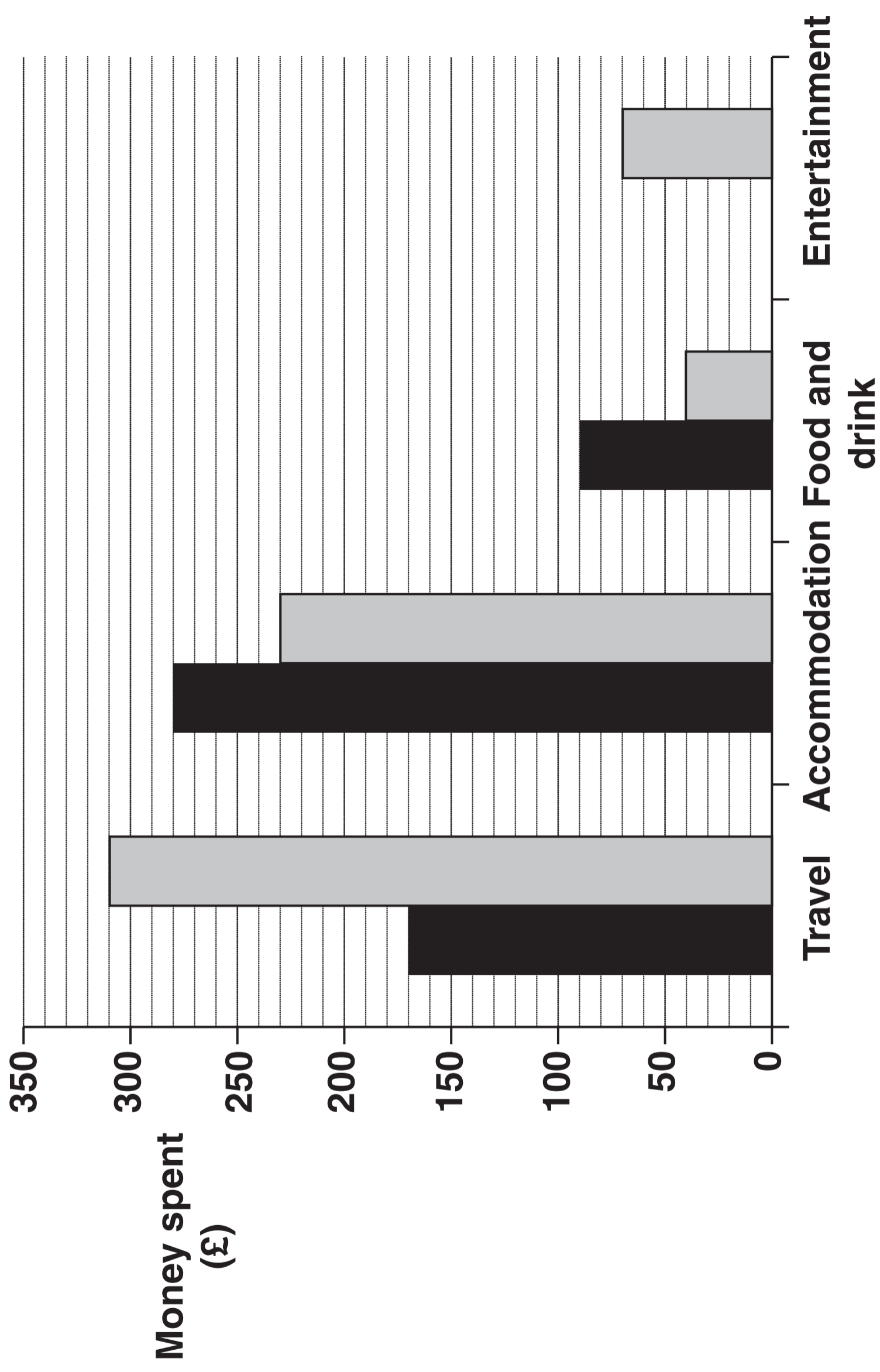
(b) How much did Sumita spend on travel?

(b) £ _____ [1]

(c) Whose holiday cost more altogether, and by how much?

_____ holiday cost more, by £ _____ [3]

KEY
■ Paul
■ Sumita



5 (a) Work out.

(i) $8 \div 100$

(a)(i) _____ [1]

(ii) $\frac{8 + 9}{-2}$

(ii) _____ [1]

(iii) $4 + 8 \times 3$

(iii) _____ [1]

**(b) A number is multiplied by 8.
The answer is positive and less than 8.**

Find a possible number and complete the calculation.

(b) $8 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$ [2]

6 Dale asked each of 10 students from class 11M how many items they had downloaded the previous day. Here are their responses.

5 0 4 12 17 22 0 15 7 20

(a) Find the mode.

(a) _____ [1]

(b) Find the median.

(b) _____ [2]

(c) Dale also asked each of 10 students from class 11Y how many items they had downloaded the previous day. The range of their responses was 21 and the mean of their responses was 14.

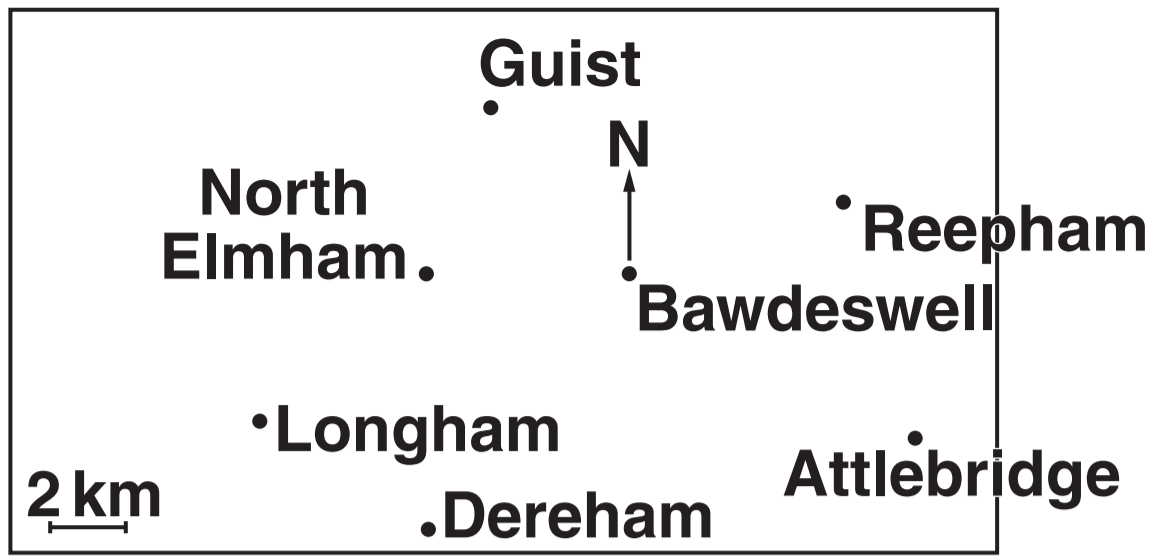
Calculate the appropriate values for class 11M so that you can complete the following statements.

(i) Class 11_____ downloaded more items on average because

_____ **[4]**

(ii) Class 11_____ had a greater spread of items downloaded because

_____ **[2]**



SCALE: 1 CM REPRESENTS 2 KM

8 A shop has these prices for bird food.

1 kg bag of nuts £5.30

500 g bag of seeds £2.25

Bag of 6 suet spheres £1.90

(a) Pavel wants to buy

3 kg of nuts

24 suet spheres.

Show that buying these is not enough to get this special offer.

SPECIAL OFFER
Spend at least £30 and
get £10 off!

[3]

(b) Show that if Pavel also buys 1 kg of seeds and one more bag, from the three types of bird food available, it is possible for him to get the special offer.

Find how much he will spend when he does this. [4]

9 (a) Simplify as much as possible.

$$4a + 5a$$

(a) _____ [1]

(b) Write an expression for the total cost in pence of two doughnuts at d pence each and three teacakes at t pence each.

(b) _____ p [1]

(c) Solve these equations.

(i) $y - 7 = 4$

(c)(i) _____ [1]

(ii) $2(3x - 1) = 10x - 5$

(ii) _____ [4]

10 Samira and Joanne share their living costs in the ratio 3 : 2.

(a) The rent for their flat for a month is £700.

Work out how much of this rent they each pay.

(a) Samira £ _____
Joanne £ _____ [3]

(b) For one gas bill, Joanne pays £84 for her share.

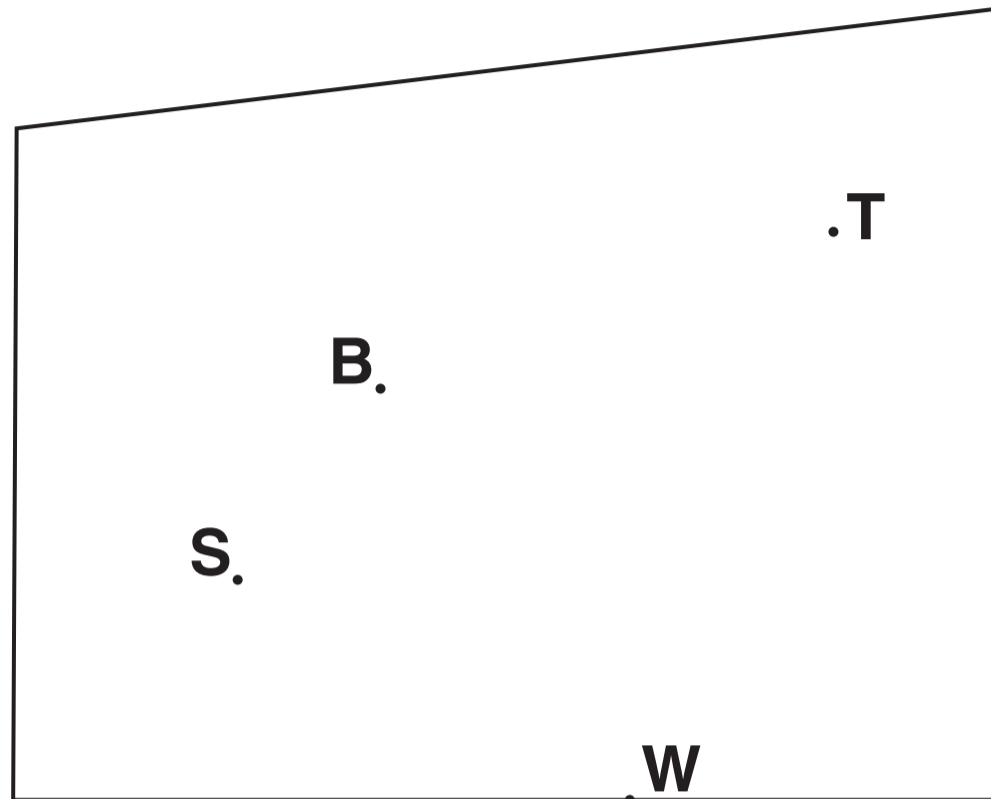
How much was the whole gas bill?

(b) £ _____ [3]

**11 In this question, use a ruler and a pair of compasses.
Do not rub out your construction lines.**

This scale drawing shows Colin's garden.

SCALE: 2 CM REPRESENTS 1 M



**Colin wants to put a bird feeder in his garden.
He wants it to be**

up to 3 m from the tree T

up to 2 m from the bush B

nearer to the water tap W than to the seat S.

**Construct the region where Colin can put the bird feeder.
Label the region R.**

[5]

END OF QUESTION PAPER

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