

Edexcel GCSE

Mathematics (Linear) – 1MA0

UTILITY BILLS

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**

Use black ink or ball-point pen.

Fill in the boxes at the top of this page with your name, centre number and candidate number.

Answer all questions.

Answer the questions in the spaces provided – there may be more space than you need.

Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.

Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.

Keep an eye on the time.

Try to answer every question.

Check your answers if you have time at the end.

1. Mr Johnson works out the cost of the gas he used last year.
At the start of the year, the gas meter reading was 8569 units.
At the end of the year, the gas meter reading was 9872 units.

Each unit of gas he used cost 44p.

Work out the **total** cost of the gas he used last year.

end - 9872

start - 8569

$$9872 - 8569 = 1300 \text{ units used}$$

$$1300 \times 0.44 = 572 \text{ total cost of electricity}$$

£ 572.00

(Total 4 marks)

2. Mr Holland uses 367 units of electricity in one month.
He pays 5.84p for each unit of electricity.
Mr Holland also pays a fixed charge of £6.14 for the month.

Work out the **total amount** he pays.

$$367 \times 5.84 = 2143.28 \text{ p}$$

$$2143.28 \text{ p} = \pounds 21.43$$

$$21.43 + \text{fixed charge of } 6.14$$

$$21.43 + 6.14 = 27.57 \text{ total cost}$$

£ 27.57

(Total 4 marks)

3. Here are two readings from a gas meter.

0	1	9	6	2
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January

0	2	1	5	9
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April

The difference in the meter readings gives the number of units of gas used.
The cost of gas is 21p for each unit of gas used.

Work out the cost of gas used.
Give your answer in pounds (£).

units
used

$$2159 - 1962 = 197$$

cost
of gas

$$197 \times 0.21 = 41.37$$

£ 41.37

(Total 4 marks)

4. Alison travels by car to her meetings.

Alison's company pays her 32p for each mile she travels.

One day Alison writes down the distance readings from her car.

Start of the day: 2430 miles

End of the day: 2658 miles

Work out how much the company pays Alison for her day's travel.

total
miles $2658 - 2430 = 228$

cost
at 32p/mile $228 \times 0.32 = 72.96$

£.....72.96.....

(Total 4 marks)

5. Peter works out the cost of the gas he used last year.
At the start of the year, the gas meter reading was 12967 units.
At the end of the year, the gas meter reading was 14059 units.
Each unit of gas he used cost 44p.

Work out the cost of the gas he used last year.

units
used $14059 - 12967 = 1092$

total
cost $1092 \times 0.44 = 480.48$

£ 480.48

(Total 4 marks)

*6. Here is part of Gary's electricity bill.

Electricity bill	
New reading	7155 units
Old reading	7095 units
Price per unit 15p	

Work out how much Gary has to pay for the units of electricity he used.

$$\begin{aligned}\text{units used: } & 7155 - 7095 = 60 \\ \text{cost: } & 60 \times 0.15 = 9\end{aligned}$$

£9

(Total 4 marks)

7. Mr Shah is working out the cost of the electricity he used in April.

Electricity Meter Readings

1 April	79721
30 April	80305

Mr Shah has to pay

21.3p for each of the first 70 units used in April
and 10.2p for each of all the other units used in April.

Work out the total cost of the electricity he used in April.

total units used : $80305 - 79721 = 584$

Cost of 70 units at 21.3p : $70 \times 0.213 =$
 $= \pounds 14.91$

Remaining units $584 - 70 = 514$

Cost of 514 units at 10.2p or $\pounds 0.102$: $514 \times 0.102 = \pounds 52.43$

Total cost of electricity =

$$14.91 + 52.43 = 67.34$$

$\pounds 67.34$

(Total 4 marks)