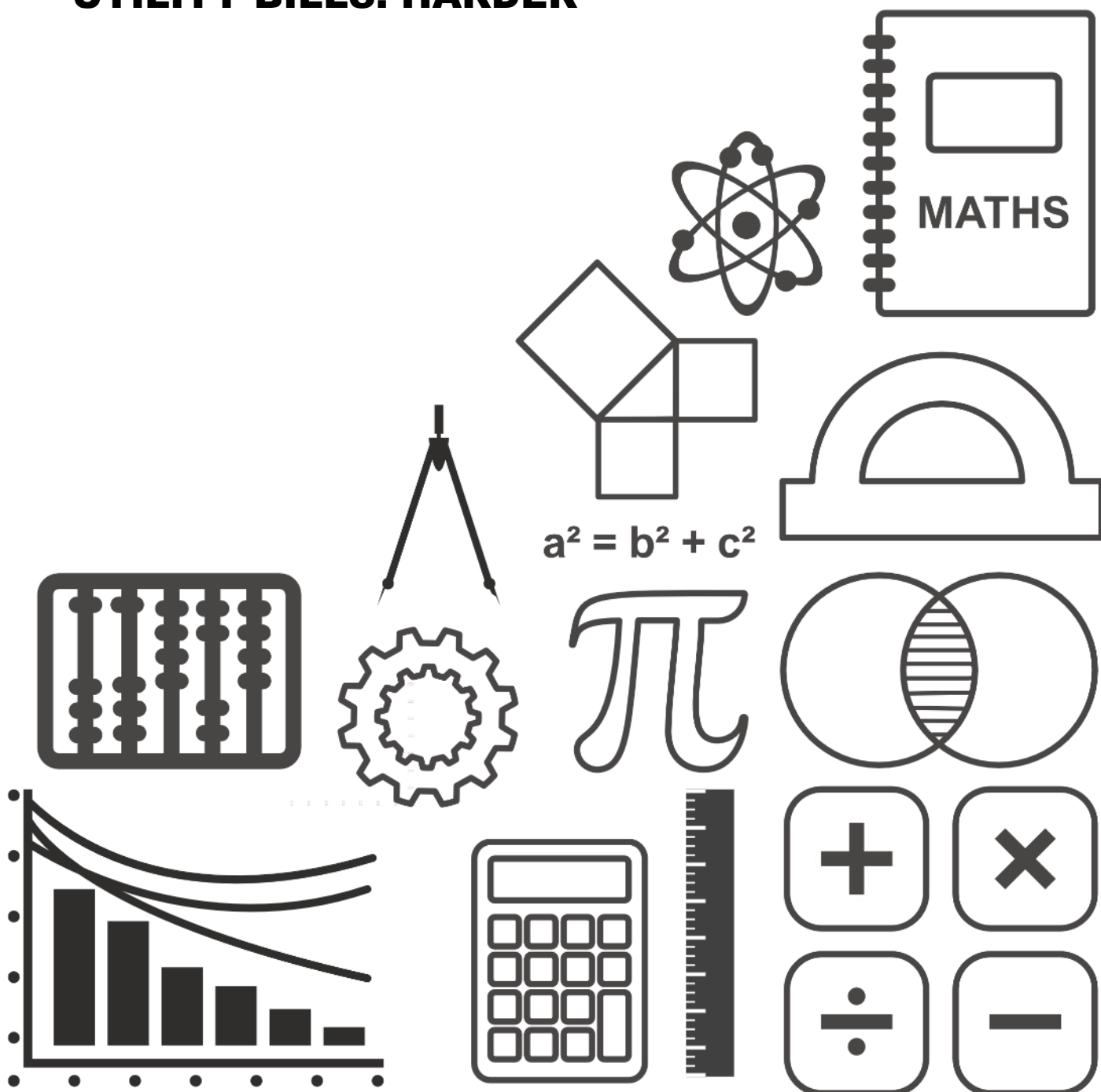


MATHSDIY

GCSE TOPIC BOOKLET UTILITY BILLS: HARDER



1. Mr. Jones' electricity account with Welsh Energy, with some of the entries removed, is shown below.
He pays for his electricity by monthly direct debit payments. He gets a discount of £24.25 for paying in that way. Use the information given on the account to complete all of the missing entries and to calculate the balance in Mr. Jones' account.

<i>Welsh Energy</i>			Electricity		
Account			<i>Period: 1st March 2009 to 31st May 2009</i>		
J Jones 13 Richmond Road Newport					
Meter reading last time	Meter reading this time	Tariff C-Customer reading E-Estimated reading	Units used	Price of each unit in pence	Amount £
7354	9734	Units used	.....	11.25	.....
		Quarterly charge			27.14
		Total charges			.....
		VAT at 5% of the total charge			.....
		Balance from previous quarter			21.37 CR
		Total to pay			.....
		<i>Payments received</i>			
		Direct Debit Discount			24.25 CR
		Payment received 18th March 2009			85.00 CR
		Payment received 18th April 2009			85.00 CR
		Payment received 18th May 2009			85.00 CR
		Balance to carry forward to next quarter		

Working

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2. Mr Lucas received an electricity bill from R.H.T. Electricity Company. The bill, with some of the entries removed, is shown below.

Use the information given on the bill to complete all of the missing entries and calculate the total amount that Mr Lucas has to pay.

R.H.T. Electricity Company					
<i>Bill period 31st January 2010 to 1st May 2010</i>					
Mr Lucas 3 Hill Road Cwm CM34 7XX					
INVOICE					
Meter reading last time	Meter reading this time	Tariff C-Customer reading E-Estimated reading	Units used	Price of each unit in pence	Amount £
4318C	4878C	Units used	.....	23.2	.....
		Quarterly charge			28.88
		Total charge before V.A.T.			.....
		V.A.T. at 5% of the total charge			.....
		Total charge including V.A.T.		
		Previous amount owing			12.00
		Amount to pay		

Working.

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3. (a) *You will be assessed on the quality of your written communication in this part of the question.*

Valley Water Company measures the water used by a household in cubic metres.

There is a quarterly standing charge of £7.45.

The first 25 cubic metres of water used are charged at a rate of 93 pence per cubic metre.

All further water used is charged at the rate of 132 pence per cubic metre.

Calculate the quarterly water bill for a household using 46 cubic metres of water.

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- (b) A different water company, Trevi Water, has a different scale of charges.

<p>Trevi Water:</p> <ul style="list-style-type: none">• Quarterly standing charge £4• First 10 cubic metres per quarter at £1.50 per cubic metre• All further water charged at £2 per cubic metre

Write down, in its simplest form, an expression for the quarterly bill in pounds for a Trevi Water customer who uses x cubic metres of water, where $x > 10$.

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4. Mr Jones' electricity quarterly statement from Welsh Energy is shown below.
 Some of the entries have been removed.
 He pays for his electricity by monthly direct debit payments.
 He gets a discount of £27.50 for paying by direct debit.
 Use the information given on the statement to complete all of the missing entries and to calculate the balance of Mr Jones' account.

<i>Welsh Energy</i>		Electricity Statement		
		<i>Period: 1st July 2012 to 30th September 2012</i>		
A Jones 54 Forest View Swansea				
Meter reading last time	Meter reading this time	Units used	Price of each unit in pence	Amount £
4267	4921	Units used	26.5	.....
		Quarterly charge		30.45
		Total charge		.....
		VAT at 5% of the total charge		.....
		Balance from previous quarter		42.36 CR
		Total to pay		.....
		<i>Payments received</i>		
		Direct Debit Discount		27.50 CR
		Payment received 18th July 2012		55.00 CR
		Payment received 18th August 2012		55.00 CR
		Payment received 18th September 2012		55.00 CR
		Balance to carry forward to next quarter	

Working

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5. Mr. Williams' electricity account with Energy UK, with some of the entries removed, is shown below.
 He pays for his electricity by monthly direct debit payments. He gets a discount of £26.25 for paying in that way. Use the information given on the account to complete all of the missing entries and to calculate the balance in Mr Williams' account.

<i>Energy UK</i>		Electricity Account			
<i>Period: 1st July 2010 to 30th September 2010</i>					
Mr. Williams 54 Alder Road Cardiff					
Meter reading last time	Meter reading this time	Tariff C-Customer reading E-Estimated reading	Units used	Price of each unit in pence	Amount £
4865	6469	Units used	.....	12.5	.....
Quarterly charge					30.26
Total charge before V.A.T.					.....
V.A.T. at 5% of the total charge					.....
Balance from previous quarter					17.82
Total to pay					.....
<i>Payments received</i>					
Direct Debit Discount					26.25 CR
Payment received 28 th July 2010					80.00 CR
Payment received 28 th August 2010					80.00 CR
Payment received 28 th September 2010					80.00 CR
Balance to carry forward to next quarter				

Working.

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6.

(a) Mrs Ridgley is considering changing her electricity supplier from **B Line Utilities** to **Domestic Utilities**.
 She usually uses 2400 units each year.
 She has found the following information.

<p>B Line Utilities: standing charge 15.07p per day cost per unit 11.51p</p> <p>Domestic Utilities: standing charge 15.82p per day cost per unit 11.32p</p>

Should Mrs Ridgley change her supplier?
 You must show **all** your working and give reasons for your answer based on the possible savings made on her yearly bill.

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- (b) Mrs Ridgley finds out later on, that VAT at 5% is payable on the cost of the standing charge and the units used.
Would this affect her decision? You must give a reason for your answer.

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