

CONSUMER MATHS 2000 - PART C

~~Ans: (a) \$790.43; (b) \$23.42~~

85. Peter's council rates were \$810. The site value of his property was \$148000. How many cents in the dollar of site value were payable in council rates?

Ans: 0.5473c/\$

86. A property of site value \$160000 attracted council rates of \$910. How many cents in the dollar of site value were payable in council rates?

Ans: 0.5688 c/\$

87. The local council increased my rates from \$810 to \$830. The site value of my property was \$140000.

- a) What was the original rate?
- b) What is the new rate?
- c) What was the percentage increase in the rate?

Ans: (a) 0.5786; (b) 0.5929; (c) 2.47%

88. I can elect to pay my council rates of \$1090 in full on 10th April next year or I can pay in 4 instalments of \$272.50 payable on 30th December this year, 27th February, 31st May and 31st August next year. Which, if either, is the better way of paying? Justify your answer.

Ans: Same amount. Interest could make slight difference.

89. George elected to pay his account in full on the 10th April. Unfortunately he lost his account and did not pay it until 12th June. Interest of 10% dating from the date of issue of the account on 1st October last year was added to the amount owing. George's rates were \$750. How much interest did he pay?

Ans: \$62.88

90. Interest of 8% from the date of issue was charged on overdue council rates. Mr. Kent was late paying his account. Given the following information, calculate the amount of interest due.

- Date of Issue: 17th October
- Due date 11th April
- Date paid 1st June
- Amount \$845

Ans: \$41.86

91. Water used is charged at 45 cents/kilolitre for the first 45 kilolitres and 65 cents/kilolitre for the excess above 45 kilolitres in any billing period. What is the charge for 65 kilolitres?

Ans: \$33.25

92. How much will I be charged for using 82 kilolitres of water over summer if water used is charged at 45 cents/kilolitre for the first 45 kilolitres and 65 cents/kilolitre for the excess over 45 kilolitres?

Ans: 44.30

93. Last time my water meter was read, it read 2010 kilolitres. Use the following information to find what the reading is this time:

- water used is charged at 45 cents/kilolitre for the first 45 kilolitres and 65 cents/kilolitre for the excess over 45 kilolitres;
- I was charged \$38.45.

Ans: 2083 kilolitres

94. My water meter read 1402 kilolitres when it was read today. Given that:

- water used is charged at 45 cents/kilolitre for the first 45 kilolitres and 65 cents/kilolitre for the excess over 45 kilolitres;
- I was charged \$31.30

find the reading on my meter last time it was read.

Ans: 1340 kilolitres

95. The water service charges were shown on my account as:

SERVICES PROVIDED	RATE IN \$NAV (cents)
WATER	1.118
SEWERAGE	4.216
DRAINAGE	0.615

a) If the NAV of my property is \$14500, calculate the charge for:

- (i) water
- (ii) sewerage
- (iii) drainage

b) Water, sewerage and drainage charges are per annum. How much should the combined charge be each quarter?

Ans: (a) (i) \$162.11; (ii) \$611.2; (iii) \$89.18; (b) \$215.65

96. Fill in the missing values on this extract from my water account:

WATER SERVICE CHARGE		
Net Annual Value of Property		\$12000

SERVICES PROVIDED	RATE IN \$NAV(cents)	ACCOUNT
Water	1.118
Sewerage	4.216
Drainage	0.615
Calculated Annual Charge	
Service Charge this quarter	

Ans:

SERVICES PROVIDED	RATE IN \$NAV(cents)	ACCOUNT
Water	1.118	134.16
Sewerage	4.216	505.92
Drainage	0.615	73.80
Calculated Annual Charge		713.88

Service Charge this quarter	178.47
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97. Drainage is charged at 0.615 cents per dollar of net annual value of a property. There is a minimum charge of \$44. Below what value NAV is the minimum charge payable?

Ans: \$7155

98. Equipment with a power rating of 110W was used for 10 hours yesterday. How many kilowatt hours were used?

Ans: 1.11 kwh

99. A clothes dryer rated at 1600W was used for 6 hours on a wet day. How many kilowatt hours were used?

Ans: 9.66 kwh

100. I use a 75W globe in my lamp which I turn on for 4 hours every night. How many kilowatt hours are used each week?

Ans: 2.1 kwh

101. The light in my lounge room has 4 globes. If I use 60W globes, how many kilowatt hours are used in a week in which I turn the lights on for 5 hours a day?

Ans: 8.4 kwh

102. A light uses a 100W globe.

a) how many kilowatt hours are used in a day in which the light is turned on for 6 hours?

b) for how long could I turn the light on and use the same amount of power if I used a 60W globe instead?

Ans: (a) 0.6 kwh; (b) 10 hours

103. Electricity charges are as follows:

Supply charge:	\$33.93/quarter
Residential Tariff:	First 1020 kwh/quarter: 11.87cents/kwh
	Balance: 12.5 cents/kwh

Calculate the total bill for a quarter in which I use 1200 kwh.

Ans: \$177.50

104. Electricity charges are as follows:

Supply charge:	\$33.93/quarter
Residential Tariff:	First 1020 kwh/quarter: 11.87cents/kwh
	Balance: 12.5 cents/kwh

What should my account be for a quarter in which I use 1450 kwh?

Ans: \$208.75

105. Electricity charges are as follows:

Supply charge:	\$33.93/quarter
Residential Tariff:	First 1020 kwh/quarter: 11.87cents/kwh
	Balance: 12.5 cents/kwh

a) What should my account be for a quarter in which I use 1100 kwh?

b) How much should I pay if I get a concession of 15%

Ans: (a) \$165; (b) \$140.25

106. A consumer uses 12000 MJ of gas in 2 months. There is a supply charge of \$12.26/2 months plus a commodity charge of 0.6710 cents/MJ for the first 4000 MJ and 0.8555 cents/MJ for the balance. Calculate the total charge for the 2 months.

Ans: \$107.54

107. Gas charges are:

Supply Charge	\$12.26 /2 months
Commodity Charge	0.6710 cents/MJ for first 4000 MJ
	0.8555 cents/MJ for balance

A consumer used 10500 MJ of gas in 2 months.

- a) Calculate the total charge for the 2 months.
- b) How much would the consumer pay if they claimed a 10% concession?
- c) How much should the consumer in their yearly budget for gas?

Ans: (a) \$94.70; (b) \$85.23; (c) \$511.30

108. The Percy family received a gas bill for \$64.77. How many megajoules did they use in the 2 month period if gas charges are as follows:

Supply Charge	\$12.26 /2 months
Commodity Charge	0.6710 cents/MJ for first 4000 MJ 0.8555 cents/MJ for balance

Ans: 7000 MJ

109. The Lee family received a gas bill for \$43.38. How many megajoules did they use in the 2 months if gas charges are as follows:

Supply Charge	\$12.26 /2 months
Commodity Charge	0.6710 cents/MJ for first 4000 MJ 0.8555 cents/MJ for balance

Ans: 4500 MJ

110.

*Distance	Call Duration						**Rate	Discount	Examples of places you can call from the Melbourne Zone
	1 min	2 min	5 min	10 min	20 min	30 min			
25 to 50 km	\$0.25	\$0.52	\$0.70	\$1.50	\$2.77	\$4.10	Day	NIL	Calls at this distance are at the Concession Community Call rate
	\$0.25	\$0.60	\$0.66	\$1.00	\$2.00	\$2.77	Night	Up to 33%	
	\$0.25	\$0.29	\$0.50	\$0.75	\$1.25	\$1.79	Economy	Up to 60%	
50 to 85 km	\$0.35	\$0.81	\$1.27	\$2.50	\$4.75	\$7.04	Day	NIL	Broadford, Cowes, Geelong, Kyneton, Marysville, Rosebud, Torquay, Warburton, Woodend, Yea
	\$0.27	\$0.58	\$1.00	\$1.75	\$3.25	\$4.75	Night	Up to 33%	
	\$0.25	\$0.50	\$0.58	\$1.04	\$2.00	\$2.89	Economy	Up to 60%	
85 to 165 km	\$0.50	\$1.12	\$1.79	\$3.50	\$6.79	\$10.12	Day	NIL	Euroa, Lorne, Moe, Morwell, Nagambie, Puckapunyal, Seymour, Traralgon, Warragul
	\$0.34	\$0.79	\$1.25	\$2.34	\$4.56	\$6.79	Night	Up to 33%	
	\$0.25	\$0.52	\$0.79	\$1.50	\$2.80	\$4.14	Economy	Up to 60%	
	\$0.50	\$1.25	\$2.00	\$3.75	\$7.25	\$10.75	Day	NIL	Sydney, Adelaide, Hobart, Canberra, Horsham,

165 to 745 km	\$0.36	\$0.82	\$1.29	\$2.50	\$4.81	\$7.25	Night	Up to 33%	Echuca, Mildura, Sale, Wangaratta
	\$0.26	\$0.54	\$0.82	\$1.52	\$3.00	\$4.35	Economy	Up to 60%	
Over 745 km	\$0.62	\$1.62	\$2.62	\$5.12	\$10.12	\$15.12	Day	NIL	Brisbane & all Queensland
	\$0.50	\$1.12	\$1.79	\$3.50	\$6.79	\$10.12	Night	Up to 33%	Perth & all WA
	\$0.30	\$0.75	\$1.00	\$2.00	\$3.75	\$5.50	Economy	Up to 60%	Darwin & all NT

Charges valid as at 4th December, 1992

*Chargeable distance is based on Dialcom's approved Trunk Charging Points

**Rates:

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Economy: 6pm Saturday to 8am Monday; 10pm to 8am every day

The most you will pay for a one hour call from

Melbourne to Sydney at the Economy rate is \$8.53

What is the cost of a 3 minute STD call from Melbourne to Sydney on a Thursday night?

Ans: 82c

111.

*Distance	Call Duration						**Rate	Discount	Examples of places you can call from the Melbourne Zone
	1 min	2 min	5 min	10 min	20 min	30 min			
25 to 50 km	\$0.25	\$0.52	\$0.70	\$1.50	\$2.77	\$4.10	Day	NIL	Calls at this distance are at the Concession Community Call rate
	\$0.25	\$0.50	\$0.56	\$1.00	\$2.00	\$2.77	Night	Up to 33%	
	\$0.25	\$0.29	\$0.50	\$0.75	\$1.25	\$1.79	Economy	Up to 60%	
50 to 85 km	\$0.35	\$0.81	\$1.27	\$2.50	\$4.75	\$7.04	Day	NIL	Broadford, Cowes, Geelong, Kyneton Marysville, Rosebud, Torquay, Warburton, Woodend, Yea
	\$0.27	\$0.58	\$1.00	\$1.75	\$3.25	\$4.75	Night	Up to 33%	
	\$0.25	\$0.50	\$0.58	\$1.04	\$2.00	\$2.89	Economy	Up to 60%	
85 to 165 km	\$0.50	\$1.12	\$1.79	\$3.50	\$6.79	\$10.12	Day	NIL	Euroa, Lorne, Moe, Morwell, Nagambie, Puckapunyal, Seymour, Traralgon, Warragul
	\$0.34	\$0.79	\$1.25	\$2.34	\$4.56	\$6.79	Night	Up to 33%	
	\$0.25	\$0.52	\$0.79	\$1.50	\$2.80	\$4.14	Economy	Up to 60%	
165 to 745 km	\$0.50	\$1.25	\$2.00	\$3.75	\$7.25	\$10.75	Day	NIL	Sydney, Adelaide, Hobart, Canberra, Horsham, Echuca, Mildura, Sale, Wangaratta
	\$0.36	\$0.82	\$1.29	\$2.50	\$4.81	\$7.25	Night	Up to 33%	
	\$0.26	\$0.54	\$0.82	\$1.52	\$3.00	\$4.35	Economy	Up to 60%	
Over 745 km	\$0.62	\$1.62	\$2.62	\$5.12	\$10.12	\$15.12	Day	NIL	Brisbane & all Queensland Perth & all WA Darwin & all NT
	\$0.50	\$1.12	\$1.79	\$3.50	\$6.79	\$10.12	Night	Up to 33%	
	\$0.30	\$0.75	\$1.00	\$2.00	\$3.75	\$5.50	Economy	Up to 60%	

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What would be the cost of a 30 minute STD call from Melbourne to Geelong on a Sunday.

Ans: \$2.89

112.

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	1 min	2 min	5 min	10 min	20 min	30 min			
25 to 50 km	\$0.25	\$0.52	\$0.70	\$1.50	\$2.77	\$4.10	Day	NIL	Calls at this distance are at the Concession Community Call rate
	\$0.25	\$0.50	\$0.56	\$1.00	\$2.00	\$2.77	Night	Up to 33%	
	\$0.25	\$0.29	\$0.50	\$0.75	\$1.25	\$1.79	Economy	Up to 60%	
50 to 85 km	\$0.35	\$0.81	\$1.27	\$2.50	\$4.75	\$7.04	Day	NIL	Broadford, Cowes, Geelong, Kyneton Marysville, Rosebud, Torquay, Warburton, Woodend, Yea
	\$0.27	\$0.68	\$1.00	\$1.75	\$3.25	\$4.75	Night	Up to 33%	
	\$0.25	\$0.50	\$0.58	\$1.04	\$2.00	\$2.89	Economy	Up to 60%	
85 to 165 km	\$0.50	\$1.12	\$1.79	\$3.50	\$6.79	\$10.12	Day	NIL	Euroa, Lorne, Moe, Morwell, Nagambie, Puckapunyal, Seymour, Traralgon, Warragul
	\$0.34	\$0.79	\$1.25	\$2.34	\$4.56	\$6.79	Night	Up to 33%	
	\$0.25	\$0.52	\$0.79	\$1.50	\$2.80	\$4.14	Economy	Up to 60%	
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	\$0.60	\$1.12	\$1.79	\$3.50	\$6.79	\$10.12	Night	Up to 33%	
	\$0.30	\$0.75	\$1.00	\$2.00	\$3.75	\$5.50	Economy	Up to 60%	

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What is the difference in the cost of a 20 minute STD call from Melbourne to Sydney and a call from Melbourne to Brisbane during business hours?

Ans: \$2.87

113.

*Distance	Call Duration						**Rate	Discount	Examples of places you can call from the Melbourne Zone
	1 min	2 min	5 min	10 min	20 min	30 min			
25 to 50 km	\$0.25	\$0.52	\$0.70	\$1.50	\$2.77	\$4.10	Day	NIL	Calls at this distance are at the Concession Community Call rate
	\$0.25	\$0.50	\$0.56	\$1.00	\$2.00	\$2.77	Night	Up to 33%	
	\$0.25	\$0.29	\$0.50	\$0.75	\$1.25	\$1.79	Economy	Up to 60%	
50 to 85 km	\$0.35	\$0.81	\$1.27	\$2.50	\$4.75	\$7.04	Day	NIL	Broadford, Cowes, Geelong, Kyneton Marysville, Rosebud, Torquay, Warburton, Woodend, Yea
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	\$0.25	\$0.50	\$0.58	\$1.04	\$2.00	\$2.89	Economy	Up to 60%	
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What is the difference in the cost of a 5 minute STD call from Melbourne to Marysville and a call from Melbourne to Echuca on a Sunday?

Ans: 3c

114.

*Distance	Call Duration						**Rate	Discount	Examples of places you can call from the Melbourne Zone
	1 min	2 min	5 min	10 min	20 min	30 min			
25 to 50 km	\$0.25	\$0.52	\$0.70	\$1.50	\$2.77	\$4.10	Day	NIL	Calls at this distance are at the Concession Community Call rate
	\$0.25	\$0.50	\$0.56	\$1.00	\$2.00	\$2.77	Night	Up to 33%	
	\$0.25	\$0.29	\$0.50	\$0.75	\$1.25	\$1.79	Economy	Up to 60%	
50 to 85 km	\$0.35	\$0.81	\$1.27	\$2.50	\$4.75	\$7.04	Day	NIL	Broadford, Cowes, Geelong, Kyneton Marysville, Rosebud, Torquay, Warburton, Woodend, Yea
	\$0.27	\$0.68	\$1.00	\$1.75	\$3.25	\$4.75	Night	Up to 33%	
	\$0.25	\$0.50	\$0.58	\$1.04	\$2.00	\$2.89	Economy	Up to 60%	
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Over 745 km	\$0.62	\$1.62	\$2.62	\$5.12	\$10.12	\$15.12	Day	NIL	Brisbane & all Queensland Perth & all WA Darwin & all NT
	\$0.60	\$1.12	\$1.79	\$3.60	\$6.79	\$10.12	Night	Up to 33%	
	\$0.30	\$0.75	\$1.00	\$2.00	\$3.75	\$5.50	Economy	Up to 60%	

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Sue rings her friend in Adelaide and talks for 10 minutes and then rings her mother in Rosebud and talks to her for 30 minutes. If she makes the calls on a Monday night, how much does she spend on her calls?

Ans: \$7.25

115. A telephone call to Spain costs \$2.19 per minute. What is the cost of a 4 minute call?

Ans: \$8.76

116. A telephone call costs \$1.79/minute PEAK and \$1.29/minute OFF/PEAK.

a) What is the cost of a 12 minute peak call?

b) For how much longer could I talk for the same cost if the call was made off /peak?

Ans: (a) \$21.48; (b) 4.65 minutes

117. You are earning \$200 per week after tax from a part-time job. Prepare a weekly budget.

NO ANSWER GIVEN

118. Prepare a weekly budget for a person earning \$500 per week after tax.

NO ANSWER GIVEN

119. A package deal holiday costs \$1500 per adult with children half price.

a) What would be the total cost for the Jones family consisting of 2 parents and 3 children?

b) How much should they set aside per week if they wish to save the money for the holiday in 6 months?

Ans: (a) \$5250; (b) \$201

120. Zena's airfare is \$840 and her holiday accommodation costs are \$90 per night. If she stays away for 7 nights:

- a) What is the total cost of her holiday?
- b) How much should she set aside each week if she wishes to save the money for her holiday in 6 months?

Ans: (a) \$1470; (b) \$5.65

121. Sandy earns \$400 per week after tax. She pays \$1300 per year in superannuation, \$520 per year in household insurance and \$1500 per year in Council and Water rates.

- a) How much per week should she allow for superannuation, insurance and rates?
- b) How much is Sandy left with per week to cover her other expenses?

Ans: (a) \$63.85; (bb) \$336.15

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