Student Name Marking Key

Eastern Goldfields College

Essential Mathematics Unit 1 2019

Application 1 **Total Marks: 56 marks (10%)**

Part A - Continued

5. What fraction of Peter's fortnightly income is spent on food? Simplify (2 marks)

$\frac{300}{2040} = \frac{5}{34}$

1 1

6. Based on the above budget how much does Peter save per month? Is it possible for Peter to save 10% of his monthly income? Justify your answer with calculations. (3 marks)

Save $2076/month 1 Identify savings

$\frac{2076}{4420} \times 100 = 46.97\%$ 1 - Working

Yes, Peter already saves more than 10% of his income per month 1 - Answer statement

7. What % of his income goes towards rent? (2 marks)

Weekly/Fortnightly

1 $\frac{200}{1020} \times 100 = 19.61\%$ 1

Working Answer

or Monthly

1 $\frac{866.67}{4420} \times 100 = 19.61\%$ 1

Working Answer

or Yearly

1 $\frac{10400}{53040} \times 100 = 19.61\%$ 1

Working Answer

8. Would Peter be able to afford to live in the house on his own? (i.e. could he pay **ALL** the rent, gas and electricity as well as his other expenses) Justify your answer with calculations. (3 marks)

Peter's current weekly costs = $540.43

Add extra expenses of living single $200.00 (Rent)

$20.77 (Elec + Gas)

$761.70

Calculations to justify 2

Answer statement 1: Yes, Peter will be able to afford to live on his own - he will reduce his savings by $220.77/week.

9. Peter believes he spends less than 5% of his income on clothes. Is this correct? Justify your answer with calculations. (2 marks)

Working = 1

Weekly $\frac{13.85}{1020} \times 100 = 1.36\%$

or Fortnightly $\frac{27.69}{2040} \times 100 = 1.36\%$

or Monthly $\frac{60}{4420} \times 100 = 1.36\%$

or Yearly $\frac{720}{53040} \times 100 = 1.36\%$

Answer statement = 1: Yes, he spends less than 5% of his income on clothes.

/12

10. Peter wants to budget for a trip to Bali on December 1st. His ticket cost $362 return. If Peter puts $25 per week towards the cost of his ticket, how long will it take to save the money? (2 marks)

Working: 1 $362 ÷ 25 = 14.48

Answer Statement: 1 It will take Peter 15 full weeks to save for the ticket.

11. If Peter did end up living on his own suggest two ways he could reduce his expenses. (2 marks)

Answers may vary but could include; 1 mark for each valid/correct statement provided

- Spending less on entertainment
- Cancelling his gym membership.

/4

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Application 1 **Total Marks: 16 marks (10%)**

Part B

Use the shopping dockets provided to complete each task below.

1. Look at the **'Woolworths'** shopping docket.

   Use rounding to estimate the total cost of the items on the docket to the nearest dollar. Round each item to the nearest dollar and add up the total. (Show working below). (2 marks)

Answer 1 Rounded price = $88

Working 1 Working - either herein or directly on the receipt.

2. Compare your estimate with the actual cost on the docket.
   a) Was your estimate higher or lower than the actual cost? (1 mark)

Higher 1

   b) By how much? (1 mark)

$1.84 1

3. Calculate the percentage difference of your estimate to the actual cost. (Show all working). (2 marks)

Working = 1

$\frac{88}{86.16} \times 100 = 102.14\%$

$102.14 - 100 = 2.14\%$

Answer = 1

or

Working = 1

$\frac{1.84}{86.16} \times 100 = 2.14\%$

Answer = 1

/6

4. Compare the "dutch cream" potatoes to the "sweet gold" potatoes.

a) What is the difference in price per kilogram? (1 mark)

$5.50 − $2.50 = $3.00/kg difference

Sweet Gold Dutch Cream

Correct answer = 1 mark

b) Which type could you buy more of with $10? (1 mark)

Dutch Cream

Correct answer = 1 mark

c) If I had $10 I could buy approximately 1.8 kg of "sweet gold" potatoes. Explain, using mathematical working/reasoning, how this has been calculated.

(2 marks)

Working = 1 mark: $5.50 ÷ 1000g = 0.0055/gram

0.0055 x 1800g = $9.90

Correct answer = 1 mark

5. Look at the **"redkite"** receipt

a) Milk costs $2.80 for 2 Litres. What is the cost per 100 ml? (2 marks)

Working = 1 mark: $2.80 ÷ 20 = 14 (2000 ÷ 100 = 20 lots of 100 ml)

(2000 ml in 2 litres)

Correct answer = 1 mark: 14 cents / 100 ml or $0.14 / 100 ml

b) Is $8 enough to buy 300 g of lamb cutlets? Show working to justify your answer. (2 marks)

Lamb is $26.00/kg

$26 ÷ 1000g = $0.026/gram

$0.026 x 300g = $7.80

Working = 1 mark

Correct answer = 1 mark

c) If navel oranges go on 'special' next week at 15% off the regular price, how much would the same amount of oranges cost next week? (2 marks)

This week's price = $9.33

100 − 15 = 85%

0.85 x 9.33 = $7.93

Working = 1 mark

Correct answer = 1 mark

END OF APPLICATION

/10