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Department: Education

PROVINCE OF KWAZULU-NATAL

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY

COMMON TEST

MARCH 2020

MARKS: 100

TIME: 2 hours

This question paper consists of 9 pages.

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2 NSC March 2020 Common Test

INSTRUCTIONS AND INFORMATION

- 1. This question paper consists of FOUR questions. Answer ALL the questions.
- 2. Number the answers correctly according to the numbering system used in this question paper.
- 3. Start EACH question on a NEW page.
- 4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
- 5. Show ALL calculations clearly.
- 6. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
- 7. Indicate units of measurement, where applicable.
- 8. Diagrams and graphs are NOT necessarily drawn to scale, unless stated otherwise.
- 9. Write neatly and legibly.

3 NSC March 2020 Common Test

QUESTION 1

1.1

Mrs Molefe buys raw mealies from the farmer at R7,00 each. The farmer delivers mealies to her home for free at 06:00. She cooks the mealies for one hour fifty minutes. She sells them at the taxi rank for R13,00 each. She sells on Monday to Saturday. A single trip to the taxi rank costs R15,00.

Use the information above and the February calendar below to answer the questions that follow.

PHOTO OF RAW MEALIES



Source: www.shutterstock.com

FEBRUARY CALENDAR 2020

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |

- 1.1.1 Determine the number of days that Mrs Molefe sold mealies at the taxi rank in February 2020. (2)
- 1.1.2 After the delivery, it takes Mrs Molefe 20 minutes to prepare raw mealies for cooking. At what time will the mealies be ready for eating? (3)
- 1.1.3 Calculate the monthly taxi fare for February 2020. (4)
- 1.1.4 Calculate the profit from the sale of one mealie. (2)
- 1.1.5 Define the term *break-even*. (2)
- 1.1.6 Write down the formula for calculating the cost per day in the form:

 $Cost = \dots + \dots \times \dots$ (2)

1.1.7 Write down the formula for calculating the income per day in the form:

 $Income = \dots \times \dots$ (2)

1.1.8 Calculate the profit made if she bought 70 raw mealies and only sells 40. (6)

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Mathematical Literacy 4 March 2020 Common Test NSC

1.2

Mr Molefe is a fisherman. Before he goes to the sea shore to fish, he studies the tide table. Below are the two tide tables for Durban showing tides for Tuesday 28/01/2020 and Wednesday 29/01/2020.

Use the information above and TABLE 1 below to answer the following questions.

TABLE 1: Showing Durban tide tables for 28/01/2020 and 29/01/2020

| | 28/01/2020 | | | | | • | 29/01 | 1/2020 | | | |
|--------------------|------------|---------------|-----------------|--|-------------------|-------------------|-------|----------------|---------------|--------|-------------------|
| Tide | | Ti | me | | Height | Tide | | Tin | ne | | Height |
| High tide | | 5:4 | 4 am | | 1,91 m | High tid | e | 6:13 | am | | 1,86 m |
| Low tide | | 11: 4 | 19 am | | 0,43 m | Low tide | Э | 12:18 | pm | 0,50 m | |
| High tide | | 5: 4 | 9 pm | | 1,8 m | High tid | e | 6:17 | pm | 1,76 m | |
| Low tide | | 11:5 | 9 pm | | 0,35 m | Low tide | Э | | | | |
| Sunrise 5:20 am | ľ | nset 56 pm | Mooni 8:17an | | Moonset 9:21pm | Sunrise 5:21am | | unset :55pm | Moor 9:10a | | Moonset 9:51pm |

Source: www.tide-forecast.com

- 1.2.1 Calculate the difference in time between the high tide and low tide in the morning on 28 January 2020. (2)
- 1.2.2 Write down the time for a low tide in the afternoon of 29 January 2020 in a 24–hour format. (2)
- 1.2.3 Convert the height of the high tide to feet (ft) on 28 January 2020 in the morning.

Note: 1 foot =
$$30,48 \text{ cm}$$
 (4)

[31]

5 NSC March 2020 Common Test

QUESTION 2

2.1

The Du Toit family stays in Newcastle. They decided to change the electricity from the metered one to domestic prepaid. Below is a table of the Newcastle electricity tariffs for 2017/2018 and 2018/2019. Mr van Zyl is the Du Toit's neighbour.

Note: The municipality financial year of services starts on 1 July of the current

Use the information above and TABLE 2 below to answer the questions that follow.

TABLE 2: Showing Newcastle electricity tariffs for domestic in 2017/2018 and 2018/2019.

| Block | Tariff/ kWh in cents excluding 15% VAT 2017/2018 | Tariff/ kWh in cents excluding 15% VAT 2018/2019 |
|--------------------------------|--|--|
| Block 1: (0-50 kWh) | 96,93 cents | 104,68 cents |
| Block 2: (from 50 – 350 kWh) | 116,88 cents | 126,53 cents |
| Block 3: (from 350 - 600 kWh) | 124,92 cents | 134,91 cents |
| Block 4: (> 600 kWh) | 131,57 cents | 142,10 cents |

Source: www.newcastlemunicipality.gov.za

- 2.1.1 Determine the number of kilowatt hours (Kwh) in block 1 and block 2. (2)
- 2.1.2 Write the ratio of kilowatt hours of block 1 to block 2 in simplest form. (2)
- 2.1.3 In May 2018, the family bought electricity for R600,00 including VAT.
 - (a) Calculate the VAT amount. (3)
 - (b) Determine the number of kilowatt hours (kWh) they received. (6)
- 2.1.4 In May 2019, Mr van Zyl's family consumed 503 kWh of electricity.

 Calculate the total amount including VAT that this family will pay. (6)

[19]

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6 NSC

March 2020 Common Test

QUESTION 3

3.1

Lindani who is 45 years old, is married with 3 children. He earns a monthly taxable income of R32 500. He contributes to a medical aid scheme for him and his family. The Adapted Tax table for 2019/2020 is shown below.

TABLE 3: TAX RATES FOR INDIVIDUALS FOR THE 2019/2020 TAX YEAR

| Taxable Income | Rates of tax | | |
|-------------------------------------|---|--|--|
| 0 - 195 850 | 18 % of taxable income | | |
| 195 851 - 305 850 | 35 253 + 26% of taxable income above 195 850 | | |
| 305 851 - 423 300 | 63 853 + 31% of taxable income above 305 850 | | |
| 423 301 - 555 600 | 100 263 + 36% of taxable income above 423 300 | | |
| Rebates | | | |
| Primary Rebate | R14 220 | | |
| Secondary (Persons 65 and older) | R7 794 | | |
| Tertiary (Persons 75 and older) | R2 601 | | |
| Medical Aid Tax Cred | lits per month | | |
| Main member | R310 | | |
| First dependant | R310 | | |
| Each additional dependant | R209 | | |

[Adapted source: www.sars.org]

Use TABLE 3 and the information above to answer the questions that follow.

3.1.1 Calculate Lindani's annual taxable income. (2)

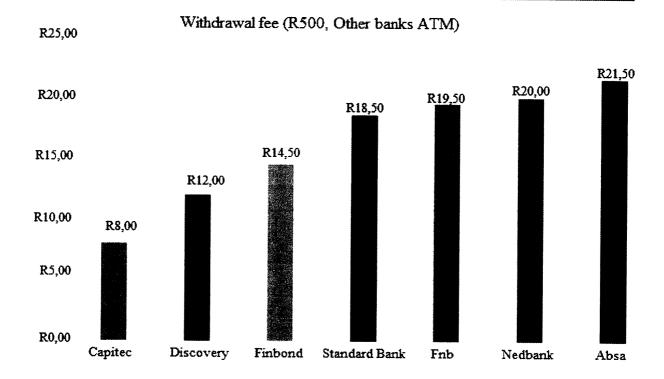
3.1.2 Determine Lindani's total medical aid tax credit for the year. (3)

3.1.3 Hence, calculate his monthly income tax for the year 2019/2020. (8)

7 NSC March 2020 Common Test

3.2

The graph below shows the 2020 Bank withdrawal fees for R500 charged by the different Banks in South Africa.



Banks in South Africa

[Adapted source: www.busstech.co.za]

Use the graph and the information above to answer the questions that follow:

- 3.2.1 Identify the price difference between the most expensive and the least expensive withdrawal fee. Give a reason for this price difference. (3)
- 3.2.2 FNB charges a fixed bank fee plus R1,90 for every R100 withdrawn. Use the graph to calculate the fixed bank fee. (4)
- 3.2.3 Determine the percentage change in the withdrawal fee for Capitec bank, if the cost to withdraw R500 in 2019 was R8,75.

You may use the formula:

% change =
$$\frac{\text{New-original}}{\text{original}} \times 100$$
 (3)

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8 NSC March 2020 Common Test

3.2.4 Absa charges R11,50 + R2 for every R100 withdrawn. A customer withdrew R2 000. Explain why the calculation below is incorrect. Hence provide the correct calculation.

(4)

[27]

(3)

QUESTION 4

The Survey conducted by Statistics South Africa indicate specific types of crime committed from 2014 to 2019.

TABLE 4: NUMBER OF INDIVIDUALS AGED 16 AND OLDER THAT EXPERIENCED THE FOLLOWING CRIMES FROM 2014 TO 2019.

| Statistic | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|----------------------------------|-----------|-----------|-----------|-----------|-----------|
| Theft of personal property | 2 095 571 | 1 894 495 | 1 762 131 | 1 844 367 | 2 343 507 |
| Street robbery | 706 227 | 678 653 | 738 462 | 735 298 | 1 125 972 |
| Assault excluding sexual assault | 724 435 | 682 924 | 590 281 | 600 153 | 598 948 |
| Consumer fraud | 254 351 | 233 182 | 199 681 | 146 536 | 172 743 |
| Hijacking | 194 976 | 161 800 | 158 990 | A | 198 199 |
| Sexual offences | 127 935 | 117 282 | 134 134 | 126 070 | 97 938 |

[Adapted source: www.statssa.gov.za.]

Use TABLE 4 and the information above to answer the questions that follow:

4.1.1 Calculate the total number of individuals affected by assault including sexual offences in 2018/019. (2)

4.1.2 Determine the mean number of individuals affected by Theft of personal property from 2014 to 2019.

9 NSC March 2020 Common Test

4.1.3 The range for individuals affected by hijackings is 46 169.

Determine **A**, the minimum number of individuals affected by hijacking in 2017/18.

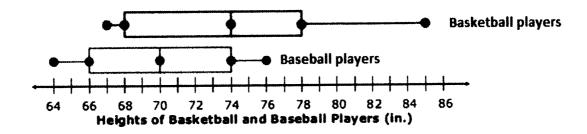
(3)

4.1.4 Describe the trend in street robbery from 2014 to 2019.

(2)

4.2

The box and whisker plot below shows the heights of Basketball players and Baseball players in inches.



[Adapted source: www.slideshow.net]

Use the information above to answer the following questions:

- 4.2.1 75% of the Baseball team's height is the same as 50% of the Basketball team's.

 Determine the height of the players. (2)
- 4.2.2 One of the coaches claimed that the difference in the maximum heights of the players is 3 times more than the difference in the minimum heights of the players.

Verify, if this claim is correct, using a calculation.

(5)

4.2.3 Determine the inter quartile range for the Baseball players. Explain the significance of the IQR of the Baseball players.

(3)

4.2.4 Which teams heights' are more consistent and why?

(3)

[23]

TOTAL: [100]

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GRADE 12

MATHEMATICAL LITERACY

COMMON TEST

MARKING GUIDELINE

MARCH 2020

MARKS: 100

| SYMBOL | EXPLANATION |
|-------------|---|
| M | Method |
| MA | Method with accuracy |
| CA | Consistent accuracy |
| A | Accuracy |
| C | Conversion |
| S | Simplification |
| RT/RG/RD/RM | Reading from a table/ graph/ diagram/Map |
| SF | Correct substitution in a formula |
| O | Opinion/ reason/deduction/example/Explanation |
| J | Justification |
| R | Rounding off |
| F | deriving a formula |
| AO | Answer only full marks |
| P | Penalty e.g. for units, incorrect rounding off etc. |
| NPR | No penalty for rounding / units |
| | |

This marking guideline consists of 7 pages.

NSC - Memorandum

March 2020 Common Test

| Ques | STION 1 [31 MARKS] Solution | Explanation | T&I |
|-------|--|---------------------------------|----------------|
| 1.1.1 | 25 days ✓✓RT | 2 RT reading from the table | M |
| 1.1.1 | 23 days V KI | 2 KT reading from the table (2) | L1 |
| 1.1.2 | Prep. Time: 06:00 + 20 minutes ✓ M | 1M adding 20 minutes | M |
| 1.1.2 | = $06:20 + 1$ hour 50 minutes \checkmark M | 1M adding cooking time | L1 |
| | Finishing time = $08:10 \checkmark CA$ | 1CA time | LI |
| | Finishing time = 00.10 V CA | | |
| 1 1 2 | Detume tria D15 00 x 2 /M | () | M |
| 1.1.3 | Return trip = $R15,00 \times 2 \checkmark M$ = $R30,00 \checkmark A$ | 1M multiplying by 2 1A fare | M L1 |
| | $- R30,00 \checkmark A$ Monthly fare = R30,00 × 25 days \checkmark M | 1M multiplication | LI |
| | $= R750,00 \times 25 \text{ days} \times W$ $= R750,00 \times CA$ | - | |
| | _ K/30,00 ▼ CA | 1CA monthly fare (4) | |
| 1.1.4 | Profit = R13,00 − R7,00 ✓ M | 1M subtraction | F |
| 1.1.4 | $= R6.00 \checkmark A$ | 1A profit | L1 |
| | - K0,00 • A | $\mathbf{AO} \tag{2}$ | LI |
| | | $AO \qquad (2)$ | |
| 1.1.5 | Break-even is when there is no profit and no loss. ✓✓E | 2E avalenation | F |
| 1.1.3 | OR | 2E explanation OR | L1 |
| | Break-even is when the cost is equal to the income. $\checkmark \checkmark E$ | 2E explanation | |
| | Break-even is when the cost is equal to the income. | (2) | |
| | | (2) | |
| 1.1.6 | (0) | 1CA fixed taxi fare | |
| 1.1.0 | \checkmark CA Cost = R30,00 + R7,00 × number of raw mealies \checkmark CA | 1CA formula (2) | F |
| | Cost = R50,00 + R7,00 × humber of faw incares * CA | TCA Iomidia (2) | L1 |
| 1.1.7 | Income = R13,00 × number of raw mealies sold. $\checkmark \checkmark F$ | 2F formula (2) | F |
| 1.1./ | medic = R15,00 × number of faw medics sold. | 21 1011111111 (2) | L ₁ |
| 1.1.8 | $Cost = R30,00 + (R7,00 \times number of raw mealies)$ | | LI |
| 1.1.0 | $= R30,00 + (R7,00 \times Rainber of raw meanes)$ $= R30,00 + R7,00 \times 70 \checkmark CA$ | 1CA substitution | |
| | $= R520,00 \checkmark CA$ | 1CA cost | F |
| | Income = $R13,00 \times number of raw mealies$ | 10110080 | L2 |
| | $= R13,00 \times 40 \checkmark MA$ | 1MA multiplying 40 by R13,00 | |
| | $= R520,00 \checkmark A$ | 1A income | |
| | Profit = $R520,00 - R520,00 \checkmark M$ | 1M subtraction | |
| | = R0.00 \(\sqrt{CA}\) | 1CA no profit | |
| | - 10,00 - 211 | Accept if profit is not | |
| | | calculated award 2 marks for | |
| | | no profit | |
| | | (6) | |
| 1.2.1 | Difference = 11:49 – 5:44 ✓MA | 1MA subtraction | 1 |
| | = 6 hours 05 minutes ✓A | 1A difference | M |
| | OR | OR | L2 |
| | 5:44 – 6:44 (1 hour) | | |
| | 6:44 – 7:44 (1 hour) | | |
| | 7:44 – 8:44 (1 hour) | 1MA adding | |
| | 8:44 − 9:44 (1 hour) ✓MA | | |
| | 9:44 – 10: 44 (1 hour) | | |
| | 10:44 – 11:44 (1 hour) | | |
| | 11:44 = 11:49 (5 minutes) | | |
| | Difference : 6 hours 05 minutes ✓ A | 1A difference | |
| | | $\mathbf{AO} \tag{2}$ | |

Mathematical Literacy 3 March 2020 Common Test

| | NSC - Memorandum | | |
|-------|---|-------------------------------|----|
| 1.2.2 | Time of low tide 12:18 ✓ ✓ A | 2A time in 24-hour format | M |
| | | (2) | L2 |
| 1.2.3 | Height = 1,91 m ✓M | 1M identifying correct height | |
| | 1 foot = $30,48 \text{ cm} \div 100 \checkmark \text{C}$ | 1C converting cm to m | M |
| | 1 ft = 0.3048 m | | L2 |
| | ft = 1,91 m | | |
| | $ft = \frac{1,91m}{0,3048 \text{ m}} \checkmark M$ | 1M dividing by 0,3048 | |
| | = 6,266 ≈ 6,27 ft ✓CA | 1CA height in ft OR | |
| | OR Height = 1,91 m ✓ M 1 foot = 30,48 cm | 1M identifying correct height | |
| | 1,91 m × 100 ✓C = 191 cm | 1C converting m to cm | |
| | $ft = \frac{191c \mathrm{m}}{30,48 \mathrm{c} \mathrm{m}} \checkmark\mathrm{M}$ | 1M dividing by 30,48 | |
| | = 6,266 ≈ 6,27 ft ✓CA | 1CA height in ft (4) | |
| | | | |
| | | [31] | |

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4 NSC - Memorandum March 2020 Common Test

| No. of kWh in Block 1: $50 \text{ kWh} - 0 \text{ kWh} = 50 \text{ kWh} \checkmark A$ | 1A correct no. of kWh | F |
|--|--|---|
| No. of kWh in Block 2: $350 \text{ kWh} - 50 \text{ kWh} = 300 \text{ kWh} \checkmark A$ | 1A correct no. of kWh AO Accept 350 kWh | L2 |
| | (2) | |
| Ratio 50:300 ✓MA 1:6 ✓S | CA from 2.1.1 1MA ratio in correct order 1S simplification AO (2) | F L1 |
| Amount excluding VAT = $\frac{R600,00}{1,15} \checkmark M$ = R521,74 VAT amount = R600,00 - R521,74 $\checkmark M$ = R78,26 $\checkmark A$ | 1M dividing by 1,15 1M subtraction 1A VAT amount | F L2 |
| VAT amount = $\frac{15}{115} \times R600,00 \checkmark M$ = $R78,26 \checkmark A$ | OR 2M dividing & multiplying 1A VAT amount | |
| OR | | |
| Amount excluding VAT = $\frac{100}{115}$ × R600,00 \checkmark M = R521,74 VAT amount = R600,00 - R521,74 \checkmark M = R78,26 \checkmark A | OR 1M multiplying by $\frac{100}{115}$ 1M subtraction 1A VAT amount (3) | |
| No. of kWh = R521,74 - R48,465 (50 kWh) \checkmark C R473,275 - R350,64 (300 kWh) \checkmark M $\frac{R122,635}{1,2492} \checkmark M = 98,1708$ $\approx 98,17 \checkmark CA$ Total no. of kWh = 50 + 300 + 98,17 \checkmark M = 448,17 \checkmark CA | 1C converting cents to rands 1M subtraction 1M dividing by rate in block 3 1CA number of kWh 1M adding 1CA no. of kWh | F L2 |
| | Amount excluding VAT = $\frac{R600,00}{1,15} \checkmark M$ = R521,74 VAT amount = $\frac{R600,00}{1,15} \times R600,00 - R521,74 \checkmark M$ = R78,26 $\checkmark A$ OR VAT amount = $\frac{15}{115} \times R600,00 \checkmark M$ = R78,26 $\checkmark A$ OR Amount excluding VAT = $\frac{100}{115} \times R600,00 \checkmark M$ = R521,74 VAT amount = $\frac{100}{115} \times R600,00 \times M$ = R521,74 VAT amount = $\frac{100}{115} \times R600,00 \times M$ = R78,26 $\checkmark A$ No. of kWh = R521,74 - R48,465 (50 kWh) $\checkmark C$ R473,275 - R350,64 (300 kWh) $\checkmark M$ $\frac{R122,635}{1,2492} \checkmark M = 98,1708$ $\approx 98,17 \checkmark CA$ Total no. of kWh = 50 + 300 + 98,17 $\checkmark M$ | Ratio 50:300 ✓ MA 1:6 ✓ S Ratio 50:300 ✓ MA 1:6 ✓ S CA from 2.1.1 IMA ratio in correct order 1S simplification AO (2) Amount excluding VAT = $\frac{R600,00}{1,15}$ ✓ M = R521,74 VAT amount = $\frac{R600,00}{1,15}$ ✓ M = R600,00 − R521,74 ✓ M = R78,26 ✓ A OR VAT amount = $\frac{15}{115}$ × R600,00 ✓ ✓ M = R78,26 ✓ A OR OR OR OR OR OR OR OR OR O |

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Mathematical Literacy

5 NSC - Memorandum March 2020 Common Test

| | NSC - Memorandum | | | | | | |
|-------|---|-----------------------------|----|--|--|--|--|
| 2.1.4 | $A_{\text{mount}} = (50 \text{ kWb}) \times 104,68$ $(200 \text{ kWb}) \times 126,53$ | 1C converting cents to | | | | | |
| | Amount = $(50 \text{ kWh} \times \frac{104,68}{100}) + (300 \text{ kWh} \times \frac{126,53}{100})$ | rands | F | | | | |
| | ✓A 134.91 | | L2 | | | | |
| | $+(153 \text{ kWh} \times \frac{134,91}{100})$ | 1A no. of kWh in block 3 | | | | | |
| | $= R52,34 + R379,59 + R206,4123 \checkmark S$ | | | | | | |
| | $= R638,3423 \checkmark A$ = R638,3423 \sqrt{A} | 1S simplification | | | | | |
| | = 1050,5425 · 11 | 1A amount | | | | | |
| | Amount including VAT = $R638,3423 \times 1,15 \checkmark M$ | 1M multiplying by 1,15 | | | | | |
| | = R734,09 \(\sqrt{CA}\) | 1CA amount | | | | | |
| | 11,0,1,0,7 | | | | | | |
| | | | | | | | |
| | OR | OD | | | | | |
| | 104,68 | OR | | | | | |
| | Amount = $(50 \text{ kWh} \times \frac{104,68}{100}) + (300 \text{ kWh} \times \frac{126,53}{100}) +$ | 1C converting cents to | | | | | |
| | 100 | rands | | | | | |
| | ✓A 134.91 | | | | | | |
| | $(153 \text{ kWh} \times \frac{134,91}{100})$ | 1A no. of kWh in block 3 | | | | | |
| | 100 | | | | | | |
| | = R52,34 + R379,59 + R206,4123 ✓S | | | | | | |
| | - K32,34 + K379,39 + K200,4123 * S | 1S simplification | | | | | |
| | = R638,3423 ✓A | _ | | | | | |
| | = 1050,5 125 11 | 1A amount | | | | | |
| | | | | | | | |
| | Amount including VAT = $R638,3423 + (15\% \times R638,3423) \checkmark M$ | | | | | | |
| | = R734,09 ✓ CA | 1M odding 150/ | | | | | |
| | | 1M adding 15% 1CA amount | | | | | |
| | | 1CA amount | | | | | |
| | | | | | | | |
| | OR | OR | | | | | |
| | $A_{\text{mount}} = (50 \text{ kWh} \times 104.68) + (300 \text{ kWh} \times 126.53)$ | 021 | | | | | |
| | Amount = $(50 \text{ kWh} \times \frac{104,68}{100}) + (300 \text{ kWh} \times \frac{126,53}{100}) +$ | 1C converting cents to | | | | | |
| | | rands | | | | | |
| | $(153 \text{ kWh} \times \frac{134,91}{100})$ | | | | | | |
| | $(153 \text{ kWh} \times \frac{100}{100})$ | 1A no. of kWh in block 3 | | | | | |
| | | | | | | | |
| | $= R52,34 + R379,59 + R206,4123 \checkmark S$ | 1S simplification | | | | | |
| | | 15 Simpinioution | | | | | |
| | = R638,3423 ✓A | 1A amount | | | | | |
| | | | | | | | |
| | $VAT = 15\% \times R638,3423$ | | | | | | |
| | = R95,75 | | | | | | |
| | Amount including VAT = $R638,3423 + R95,75 \checkmark M$ | 1M adding VAT | | | | | |
| | D504.00 (G4 | | | | | | |
| | = R734,09 ✓CA | 1CA amount | | | | | |
| | | [maximum 3 marks if | | | | | |
| | | used the wrong column | | | | | |
| | | R678,41] | | | | | |
| | | (6) | | | | | |
| | | [19] | | | | | |

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Mathematical Literacy 6 March 2020 Common Test NSC - Memorandum

Downloaded from Stanmorephysics.com QUESTION 3 [27 MARKS]

| Ques | Solution | Explanation | T &L |
|-------|--|--|---------|
| 3.1.1 | Annual Taxable income =R 32 500 × 12 ✓ MA | 1MA multiplying by 12 | F |
| | = R390 000 ✓A | 1A annual taxable income (2) | L2 |
| 3.1.2 | Total med aid tax credit= | | F |
| | R310+R310+R209+R209+R209✓MA | 1MA adding correct values | L3 |
| | = R 1247 | | |
| | = R 1247×12 ✓ MA | 1MA multiplying by 12 | |
| | = R 14 964 ✓ CA | 1CA medical aid tax credit (3) | |
| 3.1.3 | \checkmark A Monthly tax = R63 853 + 0,31(R390 000 – R305 850) \checkmark SF | 1A correct tax bracket 1SF correct substitution | F L3 |
| | = R89 939,50 √ S | 1S simplification | |
| | = R89 939,50 − (R14 220) ✓MA | 1MA subtracting rebate | |
| | = R75 719,50√CA | 1CA answer | |
| | = R75 719,50 − (R14 964) ✓CA | 1CA subtracting medical credit from Q3.1.2 | |
| | = R60 755,50 | | |
| | = R60 755,50 ÷ 12 ✓MA | 1MA dividing by 12 | |
| | = R5062,96 ✓ CA | 1CA monthly tax (8) | |
| 3.2.1 | Difference in price = R21,50 − R8 ✓ RG | 1RG subtracting correct values | F |
| | = R13,50 ✓ A | 1A difference in price | L4 |
| | Capitec bank fee rates are lower than Absa. ✓O | 10 opinion (3) | |
| 3.2.2 | Fixed bank fee = R500÷100 ✓MA | 1MA dividing by 100 | F |
| | = 5 = 5 × R1.90 ✓ MA | 1MA multiplying by R1,90 | L3 |
| | $= R9.50 = R19,50 - 9.50 \checkmark CA$ | 1CA subtracting answer 1CA fixed bank fee (4) | |
| | = R10 √ CA | ` ' | |
| 3.2.3 | ✓1RG 8.00 – 8.75 | 1RG and subtraction | F L2 |
| | % Change = $\frac{8,00-8,75}{8,75} \times 100$ | 1MA dividing by 8,75 | LZ |
| | = − 8,57% ✓ CA | 1CA % decrease (3) | |
| 3.2.4 | Withdrawal fee has a fixed cost of R11,50 therefore method is incorrect ✓ O | 1O opinion | F L4 |
| | Withdrawal fee = $R2000 \div 100 \checkmark MA$ = 20 | 1MA dividing by 100 | |
| | = R11,50 + (R2×20) \checkmark SF = R51,50 \checkmark A | 1SF substitution into formula 1A withdrawal fee (4) | |
| | | [27] | |
| | 1 | | |

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Mathematical Literacy 7 March 2020 Common Test

| | NSC - Memorandum | | | |
|-------|---|--|------|----------|
| QUES | STION 4 [23 MARKS] | | | |
| 4.1.1 | Total number of individuals affected = 598 948 + 97 938 ✓ RT = 696 886 ✓ A | 1RT correct values 1A total | (2) | DH L2 |
| 4.1.2 | Mean =2 095 571+1 894 495+1 762 131+1 844 367+2 343 507 ✓ MA =9 940 071 =9 940 071 ÷ 5 ✓ MA | 1MA adding correct values 1MA dividing by 5 | | DH L2 |
| | =1 988 014,20 ≈ 1 988 014 ✓ CA | 1CA mean | (3) | |
| 4.1.3 | Range = Max - Min ✓ MA 46 169 = 198 199 - A ✓ SF 198 199 - 46 169 =152 030 ✓ A | 1MA concept of range 1SF correct substitution 1A value of A | (3) | DH L3 |
| 4.1.4 | It is fluctuating over a period of time ✓✓ O | 2O opinion | • | DH L4 |
| | OR | OR | | |
| | Increasing and decreasing over a period of time ✓✓O | 2O opinion | (2) | |
| 4.2.1 | 74 inches ✓ RG | 2RG reading correct value | (2) | DH L2 |
| 4.2.2 | Difference in Max heights = 85 - 76 = 9 inches ✓ RG Difference in Min heights = 67 -64 = 3 inches ✓ RG | 1RG difference in maximum heights 1RG difference in minimum heights | | DH L3 |
| | Max height is 3 times more = 9 ÷ 3 ✓ MA =3 ✓ CA Claim is correct. ✓ O | 1MA dividing by 3 1CA max height 1O opinion | (5) | |
| 4.2.3 | $IQR = 74 - 66 \checkmark RG$ $= 8 \text{ inches } \checkmark CA$ | 1RG subtracting correct values 1CA IQR | | DH L4 |
| | The middle 50% of player's heights are concentrated between 66 and 74 inches ✓ O | 1O opinion | (3) | |
| 4.2.4 | Baseball ✓A | 1A correct team | | DH |
| | IQR and range for baseball team is smaller than that of basketball team ✓ ✓ O | 2O opinion | (3) | L4 |
| | | | [23] | |

TOTAL: [100]

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