

TEACHERS WITHOUT BORDERS PROGRAMME

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basic education

Department:
Basic Education
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In Bill Gates words, at the Mandela Day 'Living Together' address: "Maintaining the quality of this country's higher education system while expanding access to more students will not be easy. But it's critical to South Africa's future" – working together, we can help achieve this."

Contributing schools to date:

Clifton School	Milnerton High	Rustenburg Girls' High	St Peter's
Durban Girls'	Northwood High	St Anne's DC	St Stithians
Fairmont High	Roedean	St John's DSG	Wynberg Boys' High
Herzlia High	Rondebosch Boys'	St Mary's DSG Kloof	Wynberg Secondary

Grade 10 Math June 2019 Exam Memorandum

1.1. $\frac{33\frac{1}{3}}{100} \times 299 = R99,57 \checkmark^M$

\therefore Casey will pay $R299 - R99,57$
 $= R199,33 \checkmark^A$ 2

1.2.1. For every one part of concentrate used, 4 parts of water must be added. 2

1.2.2. $1\text{ l} = 1000\text{ ml}$

Mr Rhodes will need 200ml of concentrate and 800 ml of Juice.

1: 4

$\frac{1}{5} \times 1000 = 200\text{ ml of concentrate} \checkmark^A$

$\frac{4}{5} \times 1000 = 800\text{ ml of water} \checkmark^A$ 2

1.3.1. $10\% \times 51\text{ kg} \checkmark^M$

$= \frac{10}{100} \times 51\text{ kg}$

$= 5,1\text{ kg} \checkmark^A$ 2

1.3.2. $750 \times 7 \checkmark^M = 5250\text{ g}$

$= 5,25\text{ kg} \checkmark^A$

\therefore the bag would not adhere to the unofficial rule, as $5,25 > 5,1\text{ kg}$. 3

1.4. $750\text{ ml} : 14,94 (\div 3)$ $800\text{ ml} : R15,00 \div 4$

$250\text{ ml} : 4,98 (\times 4)$ $200\text{ ml} : R3,75 \times 5 \checkmark^M$

$1000\text{ ml} : R19,92 \checkmark^M$ $1000\text{ ml} : R18,75 \checkmark^M$

\therefore The 800ml is more value for money \checkmark^A

Question Two

2.1. $\frac{1}{3} \times 60 \text{ min}^{\checkmark m} = 20 \text{ min}^{\checkmark A}$ 2

2.2. $80 \text{ g}^{\checkmark A}$ 2

2.3. $1 \text{ tbs} = 12,5 \text{ mL}^{\checkmark A}$
 $\therefore 1,5 \text{ tbs} = 12,5 \times 1,5^{\checkmark m}$
 $= 18,75 \text{ mL}^{\checkmark A}$ 3

2.4. $1 \text{ cup} = 250 \text{ mL}^{\checkmark A}$
 $4 \text{ cups} = 4 \times 250$
 $= 1000 \text{ mL}^{\checkmark m}$
 $= 1 \text{ L}^{\checkmark A}$ 3

2.5.1. $2,5 \times 1000^{\checkmark m} = 2500 \text{ g}^{\checkmark A}$ 2

2.5.2. $2500 \div 312,5^{\checkmark m}$
 $= 8 \text{ times}^{\checkmark A}$ 2

2.6. she should set the dial on 1 2
[16]

Question Three

3.1. 10 km ✓

1

3.2. 50 min ✓

1

3.3. From the 7th to the 3rd kilometer of the journey ✓ OR 25-35 mins ✓

2

3.4. She had travelled 4 km ✓ (7-3) ✓

2

3.5. Between 15 min and 25 min. She might have been tired ✓

2

3.6. 8 km away from home ✓

1

3.7. Speed = $\frac{3 \text{ km} \checkmark^{\text{km}}}{0,25 \text{ hr} \checkmark^{\text{hr}}} \quad 15 \text{ min} = 0,25 \text{ hr}$
= 12 km/hr ✓^A

3

3.8. Speed = $\frac{12000 \text{ m} \checkmark^{\text{m}}}{3600 \checkmark^{\text{s}}}$
= 3,33 m/s ✓^A

3

3.9. 90 km ✓^{km} ÷ 36 km/h ✓

= 2,5 hrs ✓^A

= 2 hours 30 minutes ✓^{minutes} and 0 seconds.

4

[19]

Question Four

$$4.1.1. \quad 3 \times 14,95 = R 44,85 \quad 2$$

$$4.1.2. \quad 97,65 \div 13,95 = 7 \text{ bangles} \quad 2$$

$$4.1.3. \quad 15\% \text{ of } 21,89 \\ = \frac{15}{100} \times 21,89 \\ = R 3,28 \quad 2$$

$$4.1.4. \quad R 167,60 \\ \text{Change} = R 200 - R 167,60 \\ = R 32,40 \quad 3$$

$$4.1.5. \quad 167,67 : 115\% \\ x : 100\% \\ x = \frac{100 \times 167,67}{115} \\ x = R 145,74 \quad 3$$

\therefore the total excluding VAT = R145,74

4.2.1. Bond repayment / Car Instalment. 1

$$4.2.2. \quad \text{Mr Rhodes total Monthly income} \\ = R 17800 + R 550 \\ = R 18350 \\ \therefore 12\% \text{ of } R 18350 \\ = \frac{12}{100} \times 18350 \\ = R 2202$$

$$\begin{aligned}
 4.2.3. \quad & 4100 + 475 + 325 + 580 + 2750 + 1650 \\
 & + 1800 + 1300 + 940 + 2202 \\
 = & R16122 \quad \checkmark^A \quad 2
 \end{aligned}$$

$$\begin{aligned}
 4.2.4. \quad & R18350 - 16122 \checkmark^m \\
 = & R2228 \quad \checkmark^A \quad 2
 \end{aligned}$$

$$\begin{aligned}
 4.3.1. \quad & 5,5\% \times 20000 \\
 = & \frac{5,5}{100} \times 20000 \\
 = & R1100 \quad \checkmark^A \\
 \therefore \text{new salary} & = R20000 + R1100 \\
 & = R21100 \checkmark^A \quad 2
 \end{aligned}$$

4.3.2. Mr Rhodes. \checkmark^A 1

$$4.3.3. \quad \frac{992,50}{17500} \times 100$$

$$= 5,67\% \checkmark^A$$

\therefore Mrs Rhodes has a greater $\% \checkmark^A$ increase 2

(24)

Question Five

S.1. $R100 \checkmark + R22$
 $= R122 \checkmark A$ 2

S.2. $R1,95 \times 2 \checkmark = R3,90 \checkmark A$ 2

S.3. $3 \times 1,95 \checkmark + 1 \times 1,55 \checkmark$
 $= R7,40 \checkmark A$ 3

S.4.1. ~~$9 \times 60 + 25$
 $= 565 \text{ seconds} \checkmark A$~~ 1

S.4.2. ~~$360 \div 60 = 6 \checkmark$
 $6 \times 0,99 \checkmark = R5,94 \checkmark A$~~ 3

S.5. Total used = $70,45 + (25 \times 0,60) + (5 \times 1,20)$
 $+ (2 \times 0,75)$
 $= R92,95 \checkmark$

airfare left = $R140 \checkmark - 92,95 \checkmark = R47,05 \checkmark A$ 4

S.6. First five minutes = $5 \times 1,95 = 9,75$
 $R140 - 9,75 = R130,25$
 $R130,25 \div 1,55 = 84,03222$
 $\approx 84 \text{ min} \checkmark A$

she spoke for 84 + 5 min

= 89 min

= 1 hour and 29 min. (20)

[16]

Question Six.

6.1. Albert Falls Dam, Midmar Dam, 2(2)

6.2.1. 5,3 cm \checkmark = 50 km. 2

6.2.2. 7,4 cm \checkmark = 50 km + 18 km
 $\approx \pm 58$ km \checkmark 4

6.2.3. PMB \rightarrow Hilton \checkmark \rightarrow Howick \checkmark \rightarrow Lidgerton \checkmark Car along Roston Road
 \rightarrow Nottingham Road \checkmark 3
[14]

6.2.1. 1,1 cm = 10 km

\therefore 1 cm = 9,09 km.

5,2 x 9,09
= 47,3 km.

6.2.2. 1 cm = 9,09 km.

7,3 x 9,09
= 66,4 km.