

TEACHERS WITHOUT BORDERS PROGRAMME

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basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

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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

Gr 11 Maths WJ Exam

June 2019.

Question 1

1.1.1. Total = 1500 + 1500 + 2000 + 900 + 2800 + 1900 + 900
+ 1200 + 2300 + 800 + 600 ✓
= 16400 kJ. ✓ (2)

1.1.2. $\frac{16400 - 8700}{16400} \times 100$ ✓
= 47% ✓ (3)

1.1.3. Choc Bar = $\frac{1200}{4.2}$ ✓
= 285.7 calories
≈ 286 calories. ✓ (2)

1.2.1. $\frac{111.50}{114} \times 14 = R13.70$ ✓ (3)

1.2.2. 16:57:56 + 13 min + 30 secs
= 17:11:26 ✓ (3)

[13]

Question 2

2.1. $C = \frac{356 - 32}{1.8}$ ✓
= 180° ✓ (2)

2.2. 8.99 x 2 = R17.98 ✓ (2)

2.3. P: mB

25: 75 ✓

1: 3 ✓ (2)

2.4. 116 + 140 ✓

= 256g ✓ (2)

$$25 \quad 14:40 + 0:35 \quad \checkmark \\ = 15:15 \quad \checkmark$$

(2)

$$26 \quad \text{Almonds} = 140\text{g} \\ 1000\text{g} = 2.2 \text{ pounds.}$$

$$\frac{2.2}{1000} \times 140 \quad \checkmark = 0.308 \text{ pounds.} \quad \checkmark$$

(2)

$$27 \quad \frac{75}{15} \times 20 \quad \checkmark = 100 \text{ g.} \quad \checkmark$$

(2)

[14]

Question 3

$$31 \quad 6\,000\,000 - 500\,000 \quad \checkmark \\ = R5\,500\,000 \quad \checkmark$$

(3)

$$32 \quad 6\,000\,000 \times 1.14 \quad \checkmark \\ = 6\,840\,000 \quad \checkmark$$

(2)

33 Appendix A.

(4)

$$34 \quad 136\,400 \times 12 \times 771 \quad \checkmark \\ = R1\,261\,972\,800 \quad \checkmark$$

(3)

$$35 \quad 4\% \quad \checkmark$$

(2)

3

$$36 \quad \frac{4}{100} \times 8\,000\,000 \quad \checkmark \\ = R320\,000 \quad \checkmark$$

(2)

37.1 Pete McIntosh \checkmark

(2)

37.2 Vehicles \checkmark + Utilities \checkmark

(2)

$$37.3 \quad 78\,400 - 36\,000 \quad \checkmark = R42\,400 \quad \checkmark$$

(2)

$$37.4 \quad \frac{42\,400}{78\,400} \times 100 = 54.08\% \quad \checkmark$$

(3)

[25]

Question 4.

$$4.1.1 \text{ Revenue} = 80x \checkmark$$

$$4.1.2 \text{ Cost} = 12x + 6256 \checkmark$$

$$4.2.1 \text{ A} = 12(20) + 6256$$

$$= R6496 \quad \checkmark \text{ CA with their formula}$$

$$\text{B} = 12(40) + 6256$$

$$= R6736 \quad \checkmark \text{ CA}$$

$$4.2.2 \text{ Profit} = 80 - 12 \quad \checkmark \text{ M}$$

$$= R68 \quad \checkmark \text{ A}$$

$$4.2. \quad 80x = 12x + 6256 \quad \checkmark \text{ M equating}$$

$$68x = 6256$$

$$x = \frac{6256}{68} \quad \checkmark \text{ solving}$$

$$= 92 \text{ Yeapots.} \quad \checkmark \text{ A}$$

4.2.1 Appendix B

$\checkmark \text{ M}$

\checkmark correct metering value

$$4.3.1. \quad (12\,425 \times 1,82) + 34,64$$

$$= R22\,648,14 \quad \checkmark \text{ A (VAT exclusive)}$$

$$22\,648,14 \times 1,15 \quad \checkmark \text{ M}$$

$$= R26\,045,36 \quad \checkmark \text{ A}$$

$$4.3.2 \text{ Total} = 26\,045,36 \quad \checkmark + 174,23$$

$$= R26\,219,59$$

$$= R26\,220 \quad \checkmark$$

Question 5

$$\begin{aligned} 5.1 \quad \text{Distance} &= 5\,222,086 \times 1,609 \text{ km} \\ &= 8\,402,336 \text{ km} \checkmark \end{aligned}$$

$$\begin{aligned} \text{Time} &= 10 \text{ hrs } 57 \text{ mins} \\ &= 10,95 \text{ hrs} \checkmark \end{aligned}$$

$$\begin{aligned} S &= \frac{8\,402,336}{10,95} \checkmark \\ &= 767,3366 \text{ km/h} \checkmark \end{aligned}$$

$$\begin{aligned} \text{Speed (knots)} &= \frac{767,3366}{1,852} \checkmark \\ &= 414,33 \text{ knots/hr} \checkmark \end{aligned}$$

5.2.1 West \checkmark

5.2.2 Any directions + indicated on map.

eg North along Redwood OR west along Sierra then
left into W Oakley Blvd ; over S Rainbow
left into Rosanna
Right into W El Parque Ave.

$$5.2.3 \quad 1,9 \text{ cm} = 100 \text{ m} \checkmark$$

$$1 \text{ cm} = 52,63 \text{ m} \checkmark$$

$$\begin{aligned} \text{cm around Park} &= 5,7 + 8,1 + 3,7 + 4,1 + 1,9 + 4,1 \\ &= 27,6 \text{ cm} \checkmark \text{ (Accept } 27,4 - 27,8) \end{aligned}$$

$$\begin{aligned} &27,6 \text{ cm} \times 52,63 \checkmark \\ &= 1\,452,59 \text{ m} \\ &= 1\,453 \text{ m} \checkmark \end{aligned}$$

(5)

$$\begin{aligned} & 8390 \text{ ft} \times 30,48 \checkmark \\ & = 255727,2 \text{ cm} \\ & = 2,56 \text{ km} \checkmark \end{aligned}$$

(2)

$$5.32 \quad 48,5 - 26,6 = 21,9 \text{ miles.}$$

(2)

5.33. Day 1 he walks 10 miles, first 3 miles steep down slope

Day 2 steady up hill of 16,61 miles to a height of 8390 ft

Day 3 steady down slope to 2500 ft over 16,4 miles

Day 4 has a very steep up hill to height of 7000 ft over 5,5 miles.

(4)