TEACHERS WITHOUT BORDERS PROGRAMME

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With grateful thanks to our associate partners, The National Department of Basic Education, The Independent Examinations Board, Siyavula Education, Smarticks, Noteshare, Lemonlicious, datacentrix, and most of all, to the schools and teachers from both the public and private education sectors who as founder contributors, have lent content to the Teachers without Borders programme, for the benefit of all South Africa's learners.

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 8 June 2019 Memo Marks 125

Section A [80 Marks]

Question 1

a) 19 ✓
b) 25 ✓
c) $\sqrt[3]{-27}$ ✓
d) $\frac{5}{8}$ ✓ [4]

Question 2.

a)

5	275
5	55
11	11
	1

2	350
5	175
5	35
7	7
	1

(4)

b) $|HCF| = 5^2 = 25$ (2) [6]

Question 3

a) $-9 + 5 = -4$ (2)

b) $\frac{-4-8}{-6} = \frac{-12}{-6} = 2$ (3)

c) $5 - (-2) + 4$
$= 5 + 2 + 4$
$= 11$ (4) [9]

Question 4

a) $3c^2$ (1)
b) $-4a$ (1)
c) $3p^2$ (1)
d) 2 (1)
e) $3a + 4ab - 2a$ (m Badmas)
$= a + 4ab$ (3)
f) $3(x-y) - 2(2x-y) - 3x$ (m dist.)
$= 3x - 3y - 4x + 2y - 3x$ (sign)
$= -4x - y$ (4)
g) $\frac{14d^2}{7d} - \frac{7d}{7d}$ (m splitting)
$= 2d - 1$ (3)
h) $10x^9$ (2)
i) $6a^4b^2 \times 9a^4b^2$
$= 54a^8b^4$ (4)
j) $\frac{5p^3 \times p^8q^6}{10pq^3}$ (m x exponents)
$= \frac{5p^{11}q^6}{10pq^3}$
$= \frac{p^{10}q^3}{2}$ (4) [24]

Question 5

a) $-4x^3 + 3x^2 - 4x + 9$ ✓A (1)

b) 4 ✓A (1)

c) 3 ✓A (1)

d) $9 + 3(-1)^2 - 4(-1)^3 - 4(-1)$ ✓m sub

$= 9 + 3 + 4 + 4$ ✓correct signs

$= \underline{20}$ ✓A (3)

[5]

Question 6.

a) $a + b$ ✓A (1)

b) $a \times b = ab$ ✓A (1)

c) $3 \times (p - q)$ or $3(p - q)$ ✓A ✓A (2)

d) $x + 2x = 3x$ ✓ ✓ ✓A (3)

[7]

Question 7

a) $((3)(-2))^2$ ✓m subst

$= (-6)^2$

$= \underline{36}$ ✓A (2)

b) $\frac{ab}{c}$

$= \frac{(3)(-2)}{0}$ ✓m sub

$= \frac{-6}{0}$

$= \underline{0}$ ✓A NO SOLUTION? (2)

c) $a - 2b$ ✓m

$= 3 - 2(-2)$

$= 3 + 4$

$= \underline{7}$ ✓A (2)

[6]

Question 8.

a) $x = 6$ ✓A (1)

b) $x = -5 \times 2$ ✓m

$\underline{x = -10}$ ✓A (2)

c) $4x + 9x = 5 + 21$ ✓m rearrange

$13x = 26$

$x = \frac{26}{13}$ ✓m ÷

$\underline{x = 2}$ ✓A (3)

d) $4(x + 3) = 5(6x - 2) + 3$ ✓m distribution

$4x + 12 = 30x - 10 + 3$

$4x - 30x = -10 - 12 + 3$ ✓m rearrange

$-26x = -19$ ✓A

$x = \frac{-19}{-26}$

$\underline{x = \frac{19}{26}}$ ✓A (4)

e) $2x^2 = 32$

$x^2 = \frac{32}{2}$ ✓m ÷ 2

$x^2 = 16$ ✓A

$x = \sqrt{16}$

$x = \pm 4$ ✓A (3)

[13]

Question 9

$3x + 20 + 10 - 2x + 4x + 18 + 5(7 - x)$ ✓m (+)

$= 3x + 20 + 10 - 2x + 4x + 18 + 35 - 5x$ ✓A signs

$= 83$ ✓A

[3]

Question 10

$x - 2$ ✓A and $x - 1$ ✓A

[2]