



GAUTENG PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

GRADE 8

JUNE COMMON EXAM 2014

MEMORANDUM

LEARNING AREA	:	MATHEMATICS
TASK 5	:	COMMON EXAM
TIME	:	2 HOURS
MARKS	:	100

Section A (1 × 10)

Question	Answer
1.	C
2.	B
3.	C
4.	C
5.	D
6.	A
7.	B
8.	D
9.	D
10.	C

Section B

Question 1

1.1

$$\begin{array}{r} 2406 \quad \checkmark \\ 6 \overline{) 14436} \\ \underline{-12} \\ 24 \\ \underline{-24} \\ 3 \quad \checkmark \text{ (long division method)} \\ \underline{-0} \\ 36 \\ \underline{36} \\ 0 \quad \checkmark \end{array}$$

(3)

1.2.1

$$0, 12(3 + \frac{1}{3}) \div (1, 35 + 0, 65)$$

$$= \frac{12}{100}(\frac{10}{3}) \div 2 \quad \checkmark$$

$$= \frac{12}{100}(\frac{10}{3}) \times \frac{1}{2} \quad \checkmark$$

(4)

$$= \frac{120}{600} \quad \checkmark$$

$$= \frac{1}{5} \quad \checkmark$$

1.2.2

$$(\sqrt[3]{8} + \sqrt{16}) \div \sqrt{9}$$

$$= (2 + 4) \div 3 \quad \checkmark$$

(3)

$$= 6 \div 3 \quad \checkmark$$

$$= 2 \quad \checkmark$$

1.3

$$= -14^{\circ} \text{C} + 5^{\circ} \text{C} \quad \checkmark$$

$$= -9^{\circ} \text{C} \quad \checkmark$$

(2)

[12]

Question 2

2.1 $\frac{3}{8} = \frac{6}{x}$ ✓
 $3x = 48$ ✓
 $x = \frac{48}{3}$ ✓
 $= 16 \text{ men}$ ✓ (4)

2.2 $1 \text{ kg} = \text{R}35$
 $250 \text{ g} = 0,25 \text{ kg}$ ✓
 $250 \text{ g} \rightarrow \frac{0,25 \times \text{R}35}{1 \text{ kg}}$ ✓
 $= \text{R}8,75$ ✓ (3)

2.3.1 11 ✓ and 14 ✓ (2)

2.3.2 $T_1 = 2 = 3(1) - 1$
 $T_2 = 5 = 3(2) - 1$
 $T_3 = 8 = 3(3) - 1$ ✓
 $\therefore T_n = 3n - 1$ ✓✓ (3)

2.3.3 $T_n = 3n - 1$
 $T_{15} = 3(15) - 1$ ✓✓
 $= 44$ ✓ (3)

[15]

Question 3

3.1 $70\% \text{ of } \text{R}125$
 $= \frac{70}{100} \times \text{R}125$ ✓
 $= \text{R}87,50 \rightarrow \text{What you pay.}$ ✓ (2)

3.2.1 $\text{£}1 = \text{R}13,14$ ✓
 $\text{£}2000 = 2000 \times 13,14$ ✓
 $= \text{R}26\,280$ ✓ (3)

3.2.2 $\text{R}10,46 = \$1$ ✓
 $\text{R}6\,000 = \frac{6000 \times 1}{10,46}$ ✓
 $= \$573,61$ ✓ (3)

$$\begin{aligned}
 3.3 \quad SI &= P \times i \times n \quad \checkmark \\
 &= R10\,000 \times 0,12 \times 3 \quad \checkmark \checkmark \\
 &= R3\,600 \quad \checkmark
 \end{aligned}
 \tag{4}$$

$$\begin{aligned}
 3.4 \quad &10\% \text{ of } R7\,500 \\
 &= \frac{10}{100} \times R7\,500 \\
 &= R750 \quad \checkmark \\
 &\quad R350 \times 24 \\
 &= R8\,400 \quad \checkmark \\
 \text{Total amount paid} &= R750 + R8\,400 \quad \checkmark \\
 &= R9\,150 \quad \checkmark
 \end{aligned}
 \tag{4}$$

[16]

Question 4

$$4.1.1 \quad 23\,000\,000 = 2,3 \times 10^7 \quad \checkmark \tag{1}$$

$$4.1.2 \quad 0,000725 = 7,25 \times 10^{-4} \quad \checkmark \tag{1}$$

$$\begin{aligned}
 4.2.1 \quad &\frac{(xy^2)^3}{x^3y^4} \\
 &= \frac{x^3y^6}{x^3y^4} \quad \checkmark \checkmark = y^2 \quad \checkmark
 \end{aligned}
 \tag{3}$$

$$\begin{aligned}
 4.2.2 \quad &\frac{-12a^2b^3 + 8a^3b^2 + 6a^2b^4}{2a^2b^2} \\
 &= \frac{-12a^2b^3}{2a^2b^2} + \frac{8a^3b^2}{2a^2b^2} + \frac{6a^2b^4}{2a^2b^2} \quad \checkmark \\
 &= -6b \quad \checkmark + 4a \quad \checkmark + 3b^2 \quad \checkmark
 \end{aligned}
 \tag{4}$$

$$\begin{aligned}
 4.3.1 \quad &-2a(a-d) + 2d(2a-3d) \\
 &= -2a^2 + 2ad \quad \checkmark + 4ad - 6d^2 \quad \checkmark \\
 &= -2a^2 + 6ad - 6d^2 \quad \checkmark
 \end{aligned}
 \tag{3}$$

$$\begin{aligned}
4.3.2 \quad & \frac{6a+12b}{2} + \frac{4a+16b}{2} \\
&= \frac{6a}{2} + \frac{12b}{2} + \frac{4a}{2} + \frac{16b}{2} \\
&= 3a + 6b \checkmark + 2a + 8b \checkmark \\
&= 5a + 14b \checkmark \checkmark
\end{aligned}$$

(4)

[16]

Question 5

$$\begin{aligned}
5.1.1 \quad & 4x - 3x - 5 = 0 \\
& x - 5 = 0 \checkmark \\
& x = 5 \checkmark
\end{aligned}$$

(2)

$$\begin{aligned}
5.1.2 \quad & 6x + 2 = 4x - 10 \\
& 6x - 4x = -10 - 2 \checkmark \\
& 2x = -12 \checkmark \\
& x = -6 \checkmark
\end{aligned}$$

(3)

$$\begin{aligned}
5.1.3 \quad & \frac{4x-1}{3} = 5 \\
& \frac{4x-1}{3} \times 3 = 5 \times 3 \checkmark \\
& 4x - 1 = 15 \checkmark \\
& 4x = 16 \checkmark \\
& x = 4 \checkmark
\end{aligned}$$

(4)

$$\begin{aligned}
5.2 \quad & y = 2(x - 3) \\
& x = -2 \quad ; \quad y = 2(-2 - 3) \checkmark \\
& \quad \quad \quad = 2(-5) \\
& \quad \quad \quad = -10 \checkmark \\
& x = -3 \quad ; \quad y = 2(-3 - 3) \\
& \quad \quad \quad = 2(-6) \\
& \quad \quad \quad = -12 \checkmark \\
& x = -6 \quad ; \quad y = 2(-6 - 3) \\
& \quad \quad \quad = 2(-9) \\
& \quad \quad \quad = -18 \checkmark
\end{aligned}$$

(4)

$$\begin{aligned}
5.3 \quad & \text{The two DVDs cost } x + y \\
& \text{The third DVD cost } 2(x + y) \checkmark \\
& \text{If the cost of all three is C, then} \\
& C = x + y + 2(x + y) \checkmark \\
& C = 3x + 3y \checkmark
\end{aligned}$$

(3)

[16]

Question 6

6.1 $i + 55^\circ + 62^\circ = 180^\circ$ ✓ [sum of $\angle$ s of Δ] ✓
 $i + 117^\circ = 180^\circ$
 $i = 180^\circ - 117^\circ$
 $i = 63^\circ$ ✓
 $h = 62^\circ$ ✓
 $j = i = 63^\circ$ ✓ } [Corresponding $\angle$ s ; BC//ED] ✓ (6)

6.2 $x = 60^\circ$ [Corresponding $\angle$ s ; FG//KL] ✓
 $x + y = 180^\circ$ [adjacent $\angle$ s on straight line] ✓
 $y = 180^\circ - 60^\circ$ ✓
 $= 120^\circ$ ✓ (4)

6.3 $p = q = 22^\circ$ [Int $\angle$ s of Δ] ✓
 $\therefore \Delta ABC \equiv \Delta FDE$ [AAA] ✓ (2)

6.4 $x = 15 \text{ cm}$ ✓ and $z = 10 \text{ cm}$ ✓ (3)
[corresponding sides of $\equiv \Delta$ s] ✓

[15]