Province of the EASTERN CAPE EDUCATION

GRADE 8 MATHEMATICS MARCH CONTROLLED TEST

TERM 1: MEMORANDUM

TIME: 1 HOUR **MARKS: 50**

Question 1 [8 Marks]

(a) List the set of all the factors of 16 (1)

(1,2,4,8,16)√

(b) Which number is both a factor and a multiple of 15? (1)

(15) √

(c) Which of the following: 36, 18, 6, 3 and 8

i) are factors of 12? (1)

(3,6) √

ii) is a multiple of 12? (1)

(36) √

(d) List all the factors of 24 which are prime numbers (1)

(2 , 3) √

(e) List the four lowest multiples of 60 (1)

(60 , 120 ,180, 240) √

(f) List the factors of 60 which are perfect squares (1)

(4) √

(g) Give one example of a perfect cube

(8, 27, 64, or any perfect cube)

Question 2 [6 Marks]

Complete the tables below as instructed.

Write as a common fraction in its simplest form	**Write as a decimal fraction**	**Write as a percentage**
$\frac{2}{3}$	a) **0,67**√	b) **67%**√
c) $\frac{12}{25}$√	0,48	d) **48%**√

e) $\frac{11}{20}$√	f)**0,55**√	55%

Question 3 [10 Marks]

(a) In a class of 15 people, 20% are boys. How many girls are there? (2)

20% of 15

= $\frac{20}{100} \times 15$

= 3 are boys √

Therefore 15 – 3 = 12 girls√

b) A box contains 120 sweets. Ali, Billy and Caleb share the sweets in the ratio 4:7:1. Work out how many more sweets Billy receives than Ali. (4)

Add the numbers of the ratio 4:7:1 and get the total of 12.

Divide each number by 12 and multiply by 120 to get the number of sweets for each person.

For Ali, 4/12X120 = 40 sweets.

For Billy, 7/12X120 =70 sweets.

Find the difference of 70 and 40. 70 – 40 = 30.

Therefore, Billy receives 30 more sweets than Ali.

c) A dog runs from one side of a park to the other. The park is 80 meters across. The dog takes 16 seconds to cross the park. What is the speed of the dog? (2)

Use the formula Speed = Distance/Time

D = 80m

T = 16s

S = 80m/16s = 5m/s

(a) d) If you borrow R1000 and the interest charged is 12% per year, how much would you pay back if:

a) You took 5 years to pay it back? (2)

Use the formula SI =Prt/100 to calculate simple interest for 5 years.

P = R1000

R = 12%

T = 5 years

SI = (1000 X 12 X 5)/100

SI = R600

The total amount to be paid is P + SI = R1000 + R600 =R1600.

Question 4 [5 Marks]

Calculate the following

(a) $(\sqrt{25})^2 - (\sqrt{4})^2$ (1)

= 25 – 4

= 21√

(b) $\sqrt[3]{27} + \sqrt{121}$ (1)

= 3 + 11

= 14 √

(1)

(f) $100^2 \times \sqrt[3]{1000}$ (1)

= 10 000 x 10

= 100 000√

(g) $\sqrt[3]{125} + \sqrt{25} + 5^2$ (1)

= 5 + 5 + 25

= 35√

(h) $\sqrt{11\frac{1}{9}}$ (1)

= $\sqrt{\frac{100}{9}}$

= $\frac{10}{3}$

= $3\frac{1}{3}$√

Question 5 [4 Marks]

Fill in a number in the box to make the number sentence true.

(a) 8 – [**22**] = – 14 √ (b) 6 + [**-9**] = – 3

(e) 6 ÷ [**-12**] = – $\frac{1}{2}$ √ (f) – 3 – [**-7**] = 4√

Question 6 [8 marks]

Fill in the answers without the use of a calculator (show working where necessary)

(a) $5 - (28 \div 7) + (-3)$
$= \mathbf{5 - 4 - 3}\surd$
$= \mathbf{-2}\ \surd$

(b) $\dfrac{(-12)(3)}{1-10}$

$\dfrac{-36}{-9}\surd$
$= \mathbf{4}\surd$

(d) $18 \div -6 + 3 \div -1$
$= \mathbf{-3 + (-3)}\surd$
$= -6 \quad \surd$

(f) $3 - (-2)^2 + 2 \times -7 - 4$
$= \mathbf{3 - 4 - 14 - 4}\ \surd$
$= \mathbf{3 - 22}$
$= \mathbf{-19}\ \surd$

Question 7 [8 marks]

(8.1)

Find the answers to the following. Give your answers in simplest fraction form and show all your working out:

(8.1.1) $\frac{3}{6} + \frac{4}{5}$ **(15 + 24)/30 = 39/30**

(8.1.2) $\frac{3}{7} \times \frac{1}{9}$ **3/63 = 1/21**

(8.1.3) $5 \div \frac{4}{7}$ **5/1 X 7/4 = 35/4**

(8.1.4) $\frac{5}{8} \div \frac{5}{6}$ **5/8 X 6/5 = 30/40 = 3/4**