KWAZULU NATAL DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL
DEPARTMENT OF MATHEMATICS & SCIENCES

GRADE 10

MATHEMATICAL LITERACY

MARCH CONTROL TEST

2016

MARKS	: 75	DURATION : 1 ½ HOURS	
EXAMINER	: K. PAKKIRI	MODERATOR : S. SHAH	
DATE	:09/03/2016		

INSTRUCTIONS & INFORMATION

- This paper consists of **FIVE PAGES AND FOUR QUESTIONS** **(Including the annexure and this cover page)**

- Answer all questions and ensure that you follow the numbering system used in this paper

- All calculations and steps must be shown clearly in ink

- Round off all final answers to 2 decimal places unless otherwise stated

- Start each question on a new page

QUESTION ONE (35 marks)

1.1) Complete the following calculations :

1.1.1) Reduce R750 by 15% (2)

1.1.2) 24,5% of R550 (2)

1.1.3) Write $\frac{136}{200}$ as a percentage (2)

1.2) Convert the following units as indicated below :

1.2.1) 750m   = _____km (2)

1.2.2) 0,28t   = _____g (2)

1.2.3) 16,4 hours   = _____ minutes (2)

1.2.4) 5400ml   = _____ litres (2)

1.2.5) 100cm   = _____ m (2)

1.3) A TV costs R 6350 after a discount of 10%, calculate the <u>original</u> price of the TV. (3)

1.4) Round off the following numbers as indicated below. Write the letter and answer only. (4)

	NUMBER	2 DECIMAL PLACES	NEAREST WHOLE NUMBER
1.4.1	127, 255	A	B
1.4.2	92,737	C	D

1.5) Tyron does casual work delivering pizzas. His rate of pay is R18 per hour on Mondays to Fridays, and R25 per hour on the weekends.

Use the above rate to calculate his <u>total earnings</u> if he works on the following days : (3)
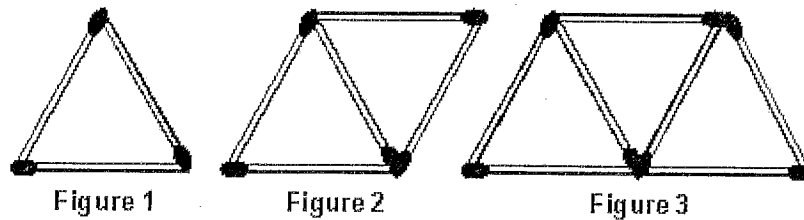
Friday- From 17:30 to 22:00

Saturday - from 18:45 to 22:45

1.6) Write 25cents : R4,50 as a ratio in its simplest form (3)

1.7) Study the following patterns made of matchsticks and answer the questions that follow:

Figure 1   Figure 2   Figure 3

1.7.1) Determine a formula (rule) for the number of matchsticks in this sequence   (3)

1.7.2) How many matchsticks will be used in the 20th pattern   (3)

QUESTION TWO (10 MARKS)

Answer the following questions. Choose the correct letter from A,B,C,D.
Write the number and letter of your answer only (5 ×2 marks each)

2.1) You travel for 30 km at an average speed of 120km/h. This journey takes you:

A) 25 minutes   B) 60 minutes   C) 15 minutes   D) 0,25minutes

2.2) A litre of milk used to cost R10,50. It now costs R 12,00. What is the percentage
increase in the price?

A) 14,28%   B) 12,5%   C)14,29%   D)50%

2.3) Ketara spends 65% of the money she earns each month, and saves the balance. If she
earns R15 000 per month, how much did she save for 3 months

A) R15 750   B) R29 250   C)R 9750   D) R5250

2.4) 20m^2 is equal to :

A) 200cm^2 B) 2000cm^2 C)2cm^2 D) 200 000cm^2

2.5) 6000 seconds is equivalent to :

A) 6 hours   B) 2hours 50 mins   C) 1 hour 40 mins   D) 6 hours 10 mins

P.T.O – PG 4 : Question three..

pg. 3

QUESTION THREE (10 MARKS)

Simplify the following fractions without the use of a calculator. You WILL be penalised if you do not show all working. (ALL ANSWERS TO BE WRITTEN AS FRACTIONS)

3.1) $\frac{2}{5} + \frac{7}{15}$ (3)

3.2) $7\frac{1}{2} \times 2\frac{4}{5}$ (3)

3.3) $(\frac{3}{4} + \frac{1}{2}) \div (\frac{5}{8} \times \frac{4}{5})$ (Write your answer as mixed number)   (4)

QUESTION FOUR (20 MARKS)

Starlight Secondary School is currently raising funds to purchase new sports equipment for their school. They are hosting a dinner and dance function.

They chose a restaurant in the area as the venue.

The restaurant charges a set fee of *R1000 for the day, and an additional R150 per person* that attends. This price includes music, food, venue, waiters etc

4.1) Write down an equation to show the above relationship in the form: (2)

COST = _____

4.2) Identify the :

4.2.1) Independant variable   (1)

4.2.2) Dependant variable   (1)

4.3) Complete the following table of values (Write the letter and answer only)   (5)

NUMBER OF PEOPLE	10	B	50	D	100
COST (R)	A	5500	C	13 000	E

4.4) Will a line graph for the above table of values start at the point (0,0)? Explain your answer   (3)

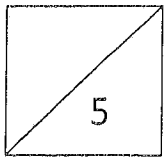4.5) Draw a line graph on the Annexure provided to show the above relationship   (5)

4.6) How many people attended the function if an amount of R 23 500 was paid ?   (3)

---TOTAL : 75---

Please hand in this
annexure with your
answer sheet

ANNEXURE
MATHEMATICAL LITERACY
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NAME : _____   GRADE :10

Question one

1.1.1) $\dfrac{75}{100} \times 85\% = R637,50$ ✓

OR

$15\% \times 750 = 112,50$ ✓
$750 - 112,50 = R637,50$ ✓ **(2)**

1.1.2) $24,5\% \times 550 = R134,75$ ✓ **(2)**

1.1.3) $\underline{68\%}$ ✓✓ **(2)**

1.2.1) $750 \div 1000 = 0,75\,Km$ ✓

1.2.2) $0,28\,Kiloooo = 280\,000g$ ✓

1.2.3) $16,4 \times 60 = 984\,mins$ ✓

1.2.4) $5400 \div 1000 = 5,4\,\ell$ ✓✓

1.2.5) $100 \div 100 = 1m$ ✓ Accuracy only. **(10)**

1.3) $6350 \div 90\% = R7055,56$ ✓ **(3)**

1.4.1) A — $127,26$ ✓
B — 127 ✓ **(4)**

1.4.2) C — $92,74$ ✓ Accuracy only.
D — 93 ✓

1.5) friday → $4,5\,hrs \times R18 = R81$ ✓
Saturday → $4\,hrs \times R25 = R100$ ✓
$\qquad\qquad Total = \underline{R181}$ ✓ **(3)**

1.6) $25^c : 450^c$ ✓ (Conversion)
$1 : 18$ ✓ **(3)**

1.7.1) $T_n = 2n + 1$ ✓ **(3)**

1.7.2) $2(20) + 1$ ✓
$= 40 + 1$ ✓
$= \underline{41\ matchsticks}$ **(3)**

Question two

2.1) C (15 mins) ✓✓

2.2) C (14,29%) ✓✓

2.3) A (R1750) ✓✓

2.4) D (260 000cm²) ✓✓ Accuracy only

2.5) C (1hr 40mins) ✓✓ **(10)**

Question 3

3.1) $\frac{2}{5} + \frac{7}{15}$

= $\frac{6}{15} + \frac{7}{15}$

= $\frac{13}{15}$ ✓ ✓ **(2)**

3.2) $7\frac{1}{2} \times 2\frac{4}{5}$

= $\frac{15}{2} \times \frac{14}{5}$

= $\frac{21}{1}$ ✓ ✓

= 21 ✓ **(3)**

3.3) $\left(\frac{3}{4} + \frac{1}{2}\right) \div \left(\frac{5}{8} \times \frac{4}{5}\right)$

= $\left(\frac{3}{4} + \frac{2}{4}\right) \div \frac{1}{2}$ ✓

= $\frac{5}{4} \times \frac{2}{1}$ ✓ { must change sign & invert }

= $\frac{5}{2}$ ✓

= $2\frac{1}{2}$ ✓ { conversion to mixed num } **(4)**

Question 4

4.1) Cost = 1000 + 150x ✓ ✓ **(2)**

4.2.1) Num of people ✓ **(2)**
4.2.2) Cost

4.3)
A → 2500 ✓
B → 30 ✓
C → 8500 ✓
D → 80 ✓
E → 16000 ✓ **(5)**

4.4) No ✓
Due to the set fee of R1000 ✓ ✓ **(3)**
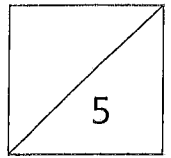
4.5) Annexure **(5)**

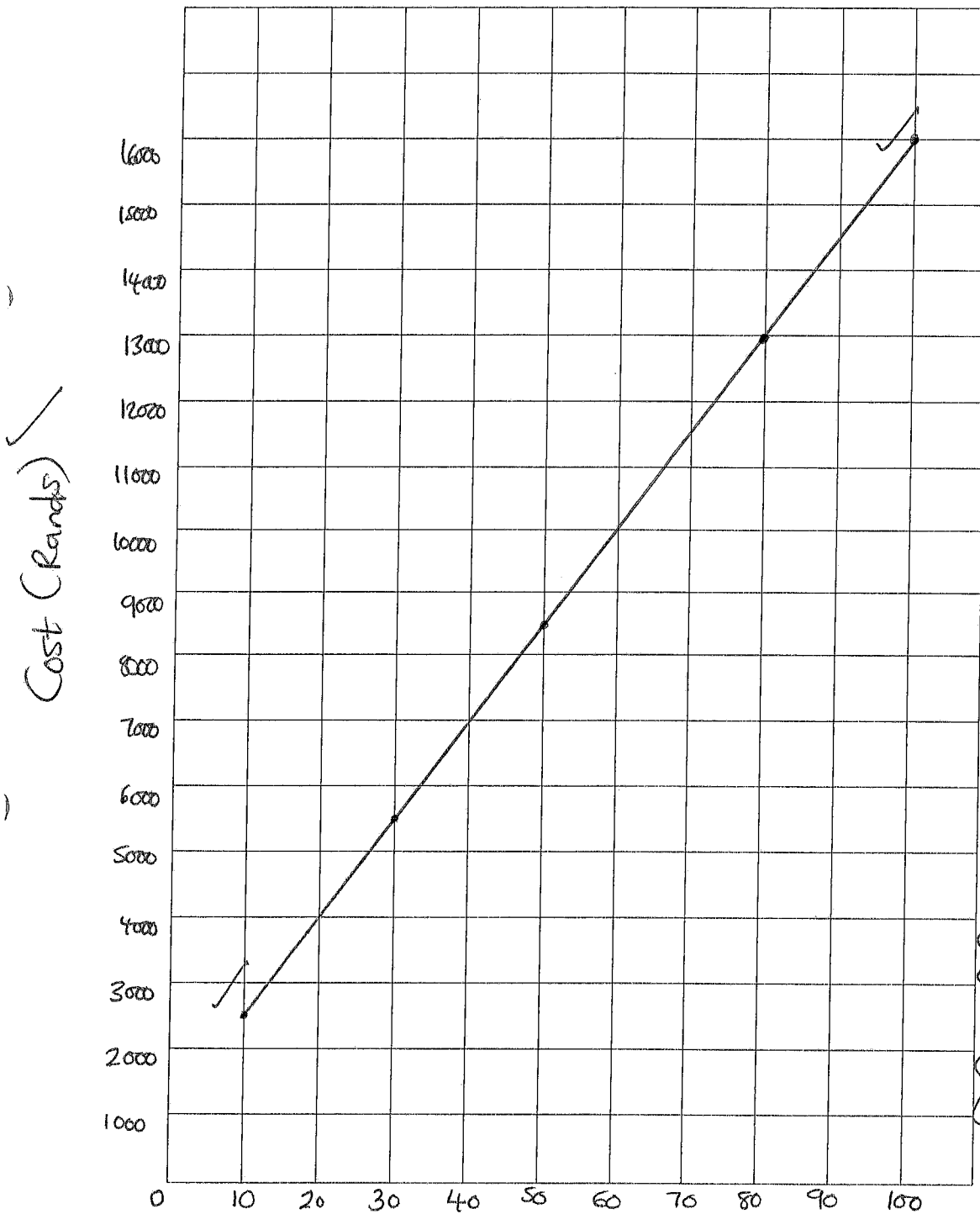4.6) R23500 − R1000 = R22500 ÷ 150 ✓

= 150 people ✓ **(3)**

Please hand in this
annexure with your
answer sheet

ANNEXURE
MATHEMATICAL LITERACY
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NAME : _____ GRADE :10 _____

Cost of venue hire ✓✓

title → 1
label
  x-axis → 1
  y-axis → 1
start pt → 1
end pt → 1
_____
5.

Subtract 1
mark if
not a
straight
line

Cost (Rands) ✓

Number of people ✓

02/03/2016