



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

CAPRICORN SOUTH DISTRICT

MATHEMATICAL LITERACY

GRADE 11

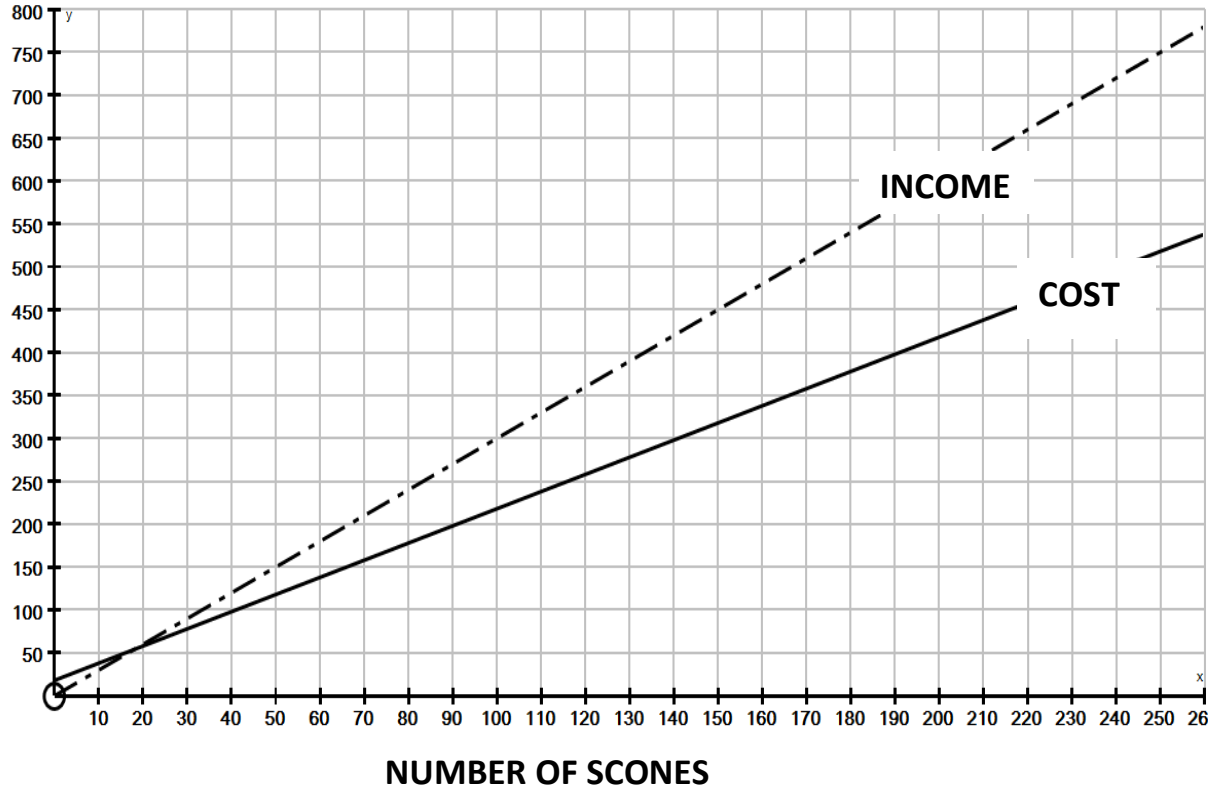
INVESTIGATION

MEMORANDUM

SYMBOL/SIMBOOL	EXPLANATION/VERDUIDELIKING
M	Method/METODE
MA	Method with Accuracy/metode met akkuraatheid
CA	Consistent accuracy/konstante akkuraatheid
RCA	Rounding consistent Accuracy/af rond konstante akkuraatheid
A	Accuracy/akkuraatheid
O	Opinion/Explanation/ verduideliking
C	Conversion/omskakeling
S	Simplification/vereenvoudiging
RT/RG/RD/RM	Reading from table/Reading from graph/Reading from diagram/Reading from map/lees van grafiek , diagram, kaart
F	Choosing the correct formula/korrekte formule
SF	Correct substitution in a formula/korrekte substitusie in formule
J	Justification/regverdiging
P	Penalty e.g. for no units, incorrect rounding off etc./pennaliseer vir eenhede, afrond ens.
Re	Reason/rede
Ro	Rounding /afrond
NPU/NPR	No Penalty for units/ No Penalty for rounding.
AO	Answer only, full marks/antwoord alleen vol punte.

QUESTION 1 [12 marks]		Answer Only Full Marks
Ques	Solution	Explanation
1.1	Number of builders is an independent variable and Number of days taken is dependent variable. ✓✓A	2A Explanation (2)
1.2	$A = \frac{240}{20} \checkmark M$ $= 12 \checkmark A$ $B = \frac{240}{24} \checkmark M$ $= 10 \checkmark A$	1A answer 1A answer (2)
1.3	<u>GRAPH SHOWING No. OF PEOPLE AND No. OF DAYS TAKEN TO BUILD A HOUSE</u> ✓ Title of the graph ✓ Labelling intercepts ✓ (1;240) ; ✓ (10;24) ✓✓ joining correct points for both graphs	(6)
1.4	Inverse proportion ✓✓A	2A correct proportion (2)

QUESTION 2 [32 marks]

Ques	Solution	Explanation
2.1	Cost(making scones) = R18 + K × R2,00 where K is the number of scones. $A = 18 + 60 \times 2 \checkmark M$ $= R138 \checkmark A$ $B = R3 \times 90 \checkmark M$ $= R270 \checkmark A$	1M multiplying by 2 and adding 18 1A correct answer 1M multiplication 1A answer (4)
2.1.2	Income = cost $18 + 2 \times K = 3 \times K$ $18 + 2K = 3K$ $18 = 3K - 2K$ $K = 18 \checkmark A$ Cost = $18 + 18 \times 2$ $= 54 \checkmark A$ OR Income = 18×3 $= 54$ The point will be (18,54) $\checkmark A$	1A value of K 1A cost or income 1A intersection point (3)
2.1.3	Graph Cost and Income of scones 	

	✓ Title of the graph ✓ Labeling both axes ✓ (0 ,18) ✓ Joining all points on the Cost graph. ✓ (0,0) ✓ Joining all points on the Income graph.	(6)
2.1.4	When the selling price of scones is increased to R3,50 the equation for the selling price will be: Income = $R3,50 \times K$, where K is the number of scones The point of intersection for the Cost and Income will be: $18 + K(2) = 3,5 \times K \quad \checkmark \text{SF}$ $18 + 2K = 3,5 K$ $\therefore 3,5 K - 2K = 18$ $1,5 K = 18$ $K = 12 \quad \checkmark \text{A}$ Selling price = $3,5 \times 12$ OR Cost price = $18 + 12(2)$ = 42 = 42 Point of intersection (12,42) $\checkmark \text{A}$ $\therefore$ Point of intersection becomes lesser and lesser. $\checkmark \text{O}$ OR closer to zero.	1SF correct substitution 1A value of K 1A point of intersection 1O opinion (4)
2.1.5	Cost price = $18 \checkmark \text{A} + K \times 2 \checkmark \checkmark \text{A}$ (where K is number of scones)	1A constant 2A multiplying K by 2 and K must be explained (3)

2.2		
2.2.1	B ✓✓A	2RT reading correctly from the graph (2)
2.2.2	Cost = 8000 + 80 × number of people. ✓A✓A	2A correct formula (2)
2.2.3	The point where both venues cost exactly the same for the same number of people. ✓A✓A	1A cost the same 1A same amount of people (2)
2.1.4	Venue 2 : R180 × 180 ✓M = R32 400 ✓A Venue 1 : R8000 + R80 × 180 ✓M = R22 400 ✓A Difference = R32 400 – R22 400 = R10 000 ✓CA The statement is valid ✓O	1M multiply rate by quests 1A simplification 1M correct multiplication 1A simplification 1CA difference 1O opinion (6)
		[32]

QUESTION 3 [13 marks]		Answer Only Full Marks
Ques	Solution	Explanation
3.1	 ✓✓✓A	3A pasting correct slip (3)
3.2	VAT amount = R6, 53 and 25,8 kWh . ✓✓A	1A correct VAT amount 1A No. of kWh (2)
3.3	VAT Amount = $R50,00 \times \frac{15}{115}$ ✓M✓M = R6,52 ✓✓A OR Amount excluding VAT = $\frac{R50}{1,15}$ ✓M = R43,48 ✓A VAT amount = R50 – R43,48 ✓M = R6, 52 ✓A	1M multiplying by 15 or 15% 1M dividing by 115 or 115% 2A simplification OR 1M dividing by 1,15 1A simplification 1M subtracting R43,48 1A Answer (4)
3.4	Free units are received by pensioners and people with disabilities. ✓✓O	2O Explanation (2)
3.5	Disagree , units of electricity sell the same because of the block system used , whether you buy at the beginning or at the month or any time of the month. ✓✓O	2O opinion (2)
		[13]