LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

VHEMBE EAST DISTRICT

SENIOR PHASE

GRADE 8

MATHEMATICS
FINAL EXAMINATION MEMORANDUM
18 NOVEMBER 2019

MARKS: 100
TIME: 2 HOURS

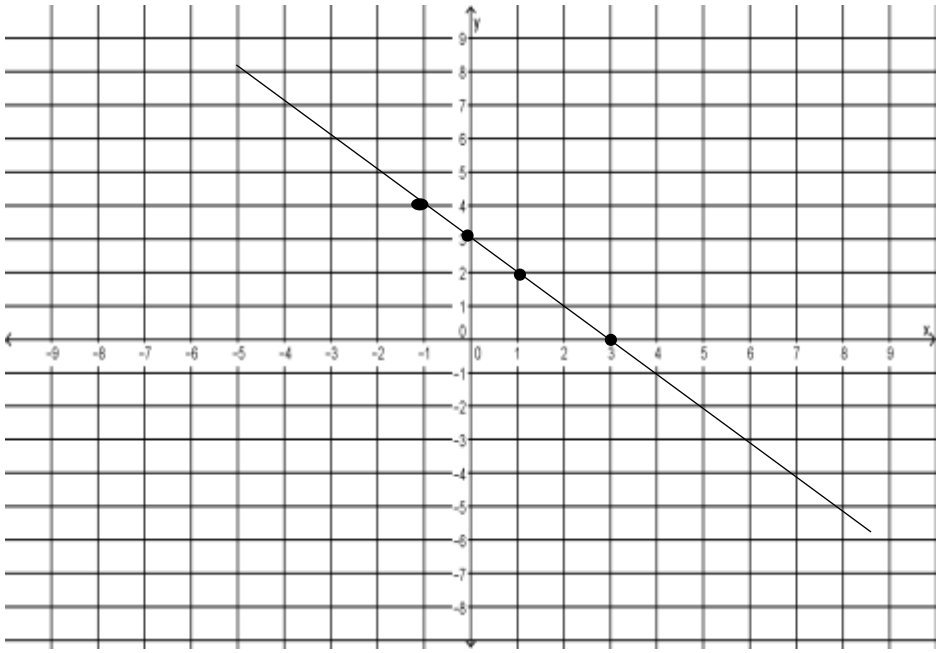
This Memorandum consists of 7 pages including the cover page.

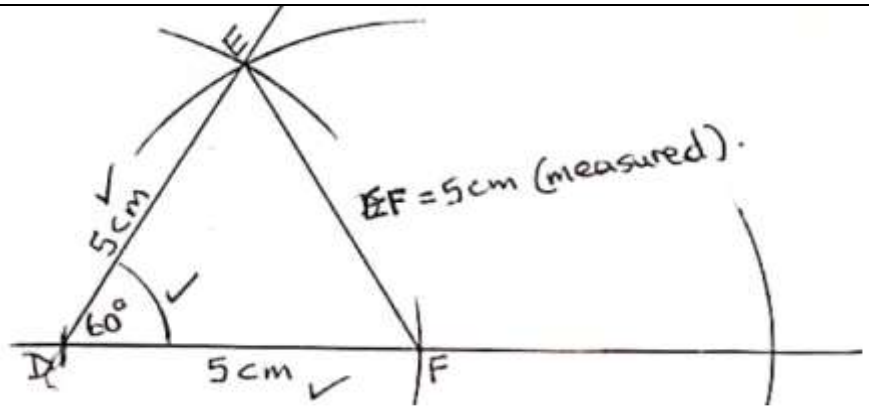
Instructions

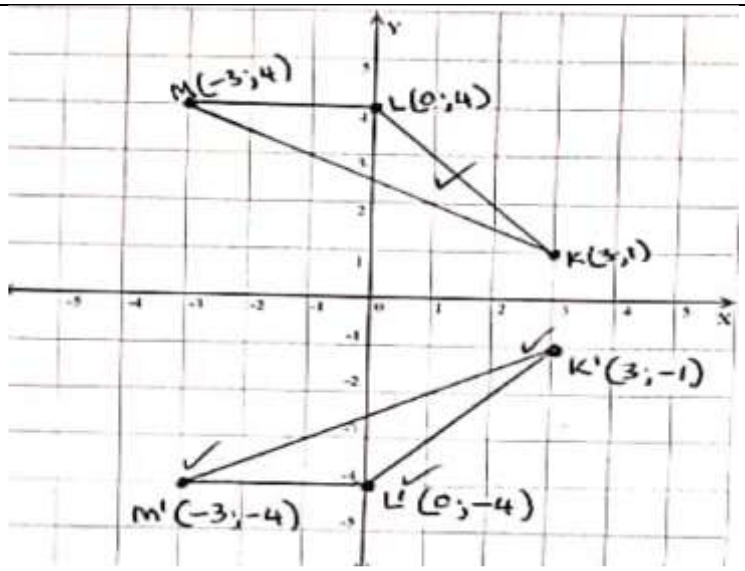
This is a marking guideline, learners who use alternative methods that are mathematically correct must be credited.

No	Solutions	Clarification on mark allocations	Marks
Question 1			**29**
1.1	1.1.1 B ✓ 1.1.2 D✓ 1.1.3 D✓ 1.1.4 C✓ 1.1.5 A✓		(5)
1.2.1	$(-1\times8) + (7- 5)$ $= -8+2$ ✓ $= -6$ ✓	Method: 1 mark Answer: 1 mark	(2)
1.2.2	$\sqrt[3]{8} + (-1)^8$ $= (2^3)^{1/3} + 1$ ✓ $= 2 + 1$ $=3$ ✓	Method: 1 mark Answer: 1 mark	(2)
1.3	Discount$=\frac{25}{100} \times 450 = R112{,}50$✓ Selling price= R450,00- R112,50✓ = R337,50✓	Method: 2 marks Answer: 1 mark	(3)
1.4.1	$\frac{9}{12} \div \frac{5}{7}$ $= \frac{9}{12} \times \frac{7}{5}$ ✓ $= \frac{63}{60}$ $= 1\ \frac{3}{60}$✓	Multiplication: 1 mark Answer: 1 mark	(2)

1.4.2	$\frac{a^2b^3.4ab^3}{a^2b^2}$ = $4a^{2+1-2}$ ✓b^{3+3-2}✓ =$4ab^4$ ✓	Method: 2 marks Answer: 1 mark	(3)
1.5	3 560 000✓✓	Answer: 2 marks	(2)
1.6	13℃ - ✓ (-2℃)✓= 15℃✓	Subtraction: 2 marks Answer: 1 mark	(3)
1.7	2 packets→ 6 people $x \rightarrow 18\ people$✓ $x = \frac{18\times2}{6}$✓ $x = 6\ packets$✓	Method: 2 marks Answer: 1 mark	(3)
1.8	(2250-380✓-250✓)÷ 6✓= 315g✓	Method: 3 marks Answer: 1 mark	(4)
Question 2			**16**
2.1.1	-5✓	Answer: 1 mark	(1)
2.1.2	0✓	Answer: 1 mark	(1)
2.1.3	$2(1)^2 + \frac{1-3}{2} - 5(1)^3$ ✓ = 2- $\frac{2}{2}$ -5✓ = -4✓	Substitution: 1 mark Simplify: 1 mark Answer: 1 mark	(3)
2.2.1	$P = 7$✓	Answer: 1 mark	(1)
2.2.2	$\frac{3}{5}\ x = 15$ $\frac{3}{5} \times \frac{5}{3}x = 15 \times \frac{5}{3}$ ✓ $x = 25$✓	 Method: 1 mark Answer: 1 mark	(2)
2.2.3	$3^{x-1} = 27$ $3^{x-1} = 3^3$ ✓ $x - 1 = 3$✓ $x = 4$✓	Method: 2 marks Answer: 1 mark	(3)
2.3.1	$x + (x + 2)$✓ $= 16$✓	Method: 1 mark Answer: 1 mark	(2)
2.3.2	$2x = 16 - 2$✓	Method: 2 marks	(3)

	$\frac{2x}{2} = \frac{14}{2}$ ✓ $x = 7$✓	Answer: 1 mark	
Question 3			**10**
3.1	D (-1 ; 4) A (0; 3) B (1 ; 2) C (3 ; 0)  Any 2 correct points: 2 marks Correct graph: 1 marks		(3)
3.2.1	$y = -2n + 1$✓✓	Answer: 2 marks	(2)
3.2.2	Add -2 to the previous term to get the next term✓	Answer: 1 mark	(1)
3.3	A=8✓, b=14✓, c= -2✓, d= -3✓	Each Answer: 1 mark	(4)

Question 4			**16**
4.1.1		**Constructiing:** Angle: 1 mark Side DE: 1 mark Side DF: 1 mark	(3)
4.1.2	Equilateral triangle (FE =5 cm; all sides are equal)	Triangle: 1 mark Reason: 1 mark	(2)
4.2	$x + 30° + x + 40° + 2x - 10° = 180°$✓ ($\angle s$ on a straight line are supplementary) $4x + 60° = 180°$✓ $4x = 120°$ $\therefore x = 30°$✓	Method: 1 mark Calculation: 1 mark Answer: 1 mark	(3)
4.3	$\hat{N}_1 = 40°$ (Vertically opposite $\angle s$) ✓ $\hat{K} = 40°$ (Alternate $\angle s, \text{PN} // \text{AK}$) ✓ $\hat{P} = 40°$ (Corresponding $\angle s, KN // AP$) ✓	Each answer: 1 mark	(3)
4.4	$\hat{P} + 45° + 60° = 180°$ (Sum of interior $\angle s$ of Δ)✓ $\hat{P} + 105° = 180°$✓ $\hat{P} + 105° - 105° = 180° - 105°$ $\hat{P} = 75°$✓	Method: 1 mark Calculation: 1 mark Answer: 1 mark	(3)
4.5	Similar✓, Corresponding sides are proportional✓	Correct choice: 1 mark Reason 1 mark	(2)
Question 5			**Marks: 9**

5.1		ΔKLM: 1 mark Each vertex: 1 mark	(4)
5.2.1	Triangular prism✓	Answer: 1 mark	(3)
5.2.2	Triangular pyramid or tetrahedron✓	Answer: 1 mark	
5.2.3	Triangles ✓	Answer: 1 mark	
5.3.1	C✓	Answer: 1 mark	(2)
5.3.2	A✓	Answer: 1 mark	
Question 5		**10**	
6.1	(longest side)AB^2=(12 cm)^2 = 144✓ Sum of squares of the other two sides =AC^2+ BC^2 =(9 cm)^2+ (7 cm)^2✓ =81+ 49 =130✓ 144≠130 (longest side)^2≠ sum of squares of other sides Hence, ΔABC is not a right- angled triangle✓	144: 1 mark Method: 1 mark 130: 1 mark Conclusion: 1 mark	(4)

6.2	$s = \frac{200}{4} = 50m$ ✓ Area = s^2 ✓ = 50^2 = 2 500 m^2 ✓	Determining length of one side: 1 mark Area formula: 1 mark Answer: 1 mark	(3)
6.3	V=πr^2.H = (3,142)(6)^2✓.(7,5)^2✓ = 848,34 cm^3✓	Substitution: 2 marks Answer: 1 mark	(3)
Question 7		**10**	
7.1.1	<table><tr><th>Stem</th><th>Leaves</th></tr><tr><td>51</td><td>0</td></tr><tr><td>52✓</td><td>3</td></tr><tr><td>53</td><td>3 4 7✓</td></tr><tr><td>54</td><td>4</td></tr><tr><td>55</td><td>5</td></tr><tr><td>56</td><td>4 8</td></tr><tr><td>58</td><td>8</td></tr><tr><td>59</td><td>0</td></tr></table>	Stem: 1 mark Leaves: 1 mark	(2)
7.1.2	Median= 544✓	Answer: 1 mark	(1)
7.1.3	Range $= 590 - 510 = 80$✓	Answer: 1 mark	(1)
7.2.1	Thursday✓	Answer: 1 mark	(1)
7.2.2	10+13+19+22+11+12+15= 102✓✓	Answer: 1 mark	(2)
7.3.1	4✓	Answer: 1 mark	(1)
7.3.2	Relative frequency= $\frac{5}{20}$✓ $= \frac{1}{4}$✓	Relative: 1 mark Answer: 1 mark	(2)
	MARKS= 100		