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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**

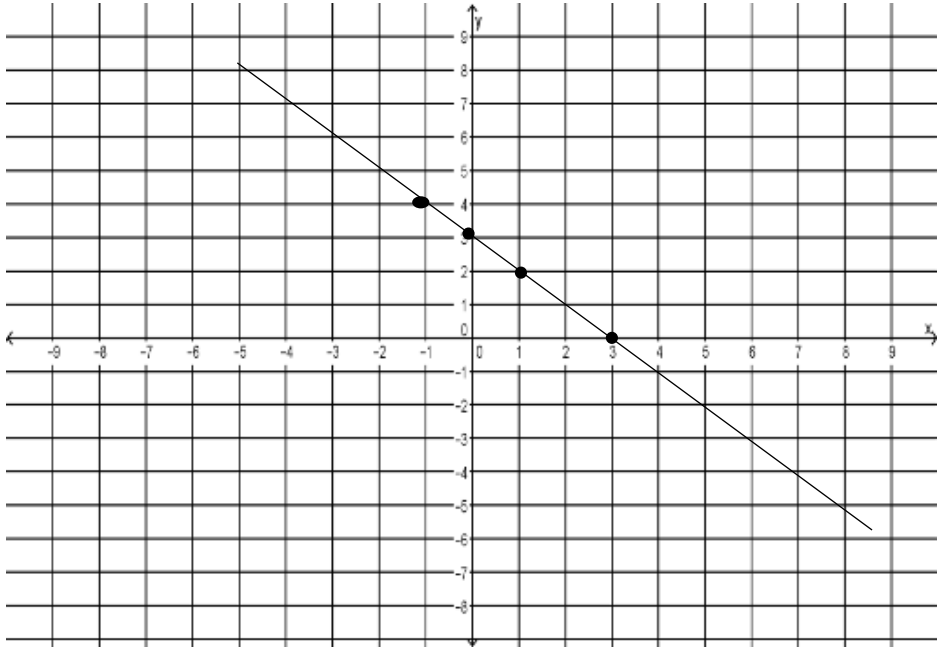
This Memorandum consists of 7 pages including the cover page.

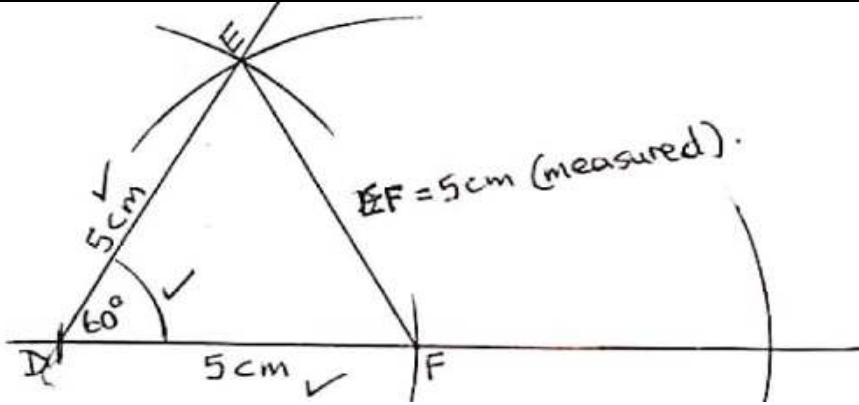
Instructions

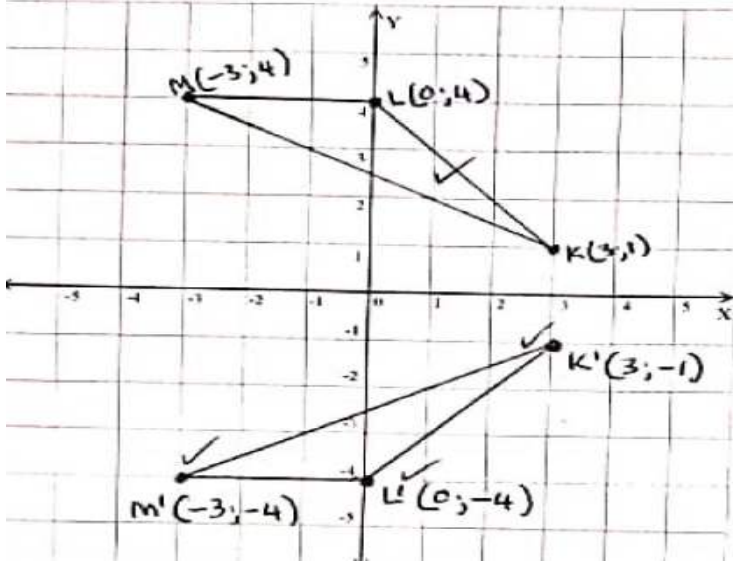
This is a marking guideline, learners who use alternative methods that are mathematically correct must be credited.

No	Solutions			Clarification on mark allocations	Marks
Question 1					29
1.1	1.1.1	B ✓			(5)
	1.1.2	D✓			
	1.1.3	D✓			
	1.1.4	C✓			
	1.1.5	A✓			
1.2.1	$(-1 \times 8) + (7 - 5)$ $= -8 + 2$ ✓ $= -6$ ✓			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	$\frac{a^2b^3 \cdot 4ab^3}{a^2b^2}$ $= 4a^{2+1-2} b^{3+3-2}$ $= 4ab^4$	Method: 2 marks Answer: 1 mark	(3)
1.5	3 560 000	Answer: 2 marks	(2)
1.6	13°C - (-2°C) = 15°C	Subtraction: 2 marks Answer: 1 mark	(3)
1.7	2 packets → 6 people $x \rightarrow 18 \text{ people}$ $x = \frac{18 \times 2}{6}$ $x = 6 \text{ packets}$	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)

	$\frac{2x}{2} = \frac{14}{2} \checkmark$ $x = 7 \checkmark$	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	$y = -2n + 1 \checkmark \checkmark$	Answer: 2 marks	(2)
3.2.2	Add -2 to the previous term to get the next term $\checkmark$	Answer: 1 mark	(1)
3.3	A=8 $\checkmark$, b=14 $\checkmark$, c= -2 $\checkmark$, d= -3 $\checkmark$	Each Answer: 1 mark	(4)

Question 4			16
4.1.1		Constructing: Angle: 1 mark Side DE: 1 mark Side DF: 1 mark	(3)
4.1.2	Equilateral triangle ($FE = 5\text{ cm}$; all sides are equal)	Triangle: 1 mark Reason: 1 mark	(2)
4.2	$x + 30^\circ + x + 40^\circ + 2x - 10^\circ = 180^\circ \checkmark$ ($\angle s$ on a straight line are supplementary) $4x + 60^\circ = 180^\circ \checkmark$ $4x = 120^\circ$ $\therefore x = 30^\circ \checkmark$	Method: 1 mark Calculation: 1 mark Answer: 1 mark	(3)
4.3	$\hat{N}_1 = 40^\circ$ (Vertically opposite $\angle s$) $\checkmark$ $\hat{K} = 40^\circ$ (Alternate $\angle s$, $PN \parallel AK$) $\checkmark$ $\hat{P} = 40^\circ$ (Corresponding $\angle s$, $KN \parallel AP$) $\checkmark$	Each answer: 1 mark	(3)
4.4	$\hat{P} + 45^\circ + 60^\circ = 180^\circ$ (Sum of interior $\angle s$ of Δ) $\checkmark$ $\hat{P} + 105^\circ = 180^\circ \checkmark$ $\hat{P} + 105^\circ - 105^\circ = 180^\circ - 105^\circ$ $\hat{P} = 75^\circ \checkmark$	Method: 1 mark Calculation: 1 mark Answer: 1 mark	(3)
4.5	Similar $\checkmark$, Corresponding sides are proportional $\checkmark$	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)$AB^2=(12\text{ cm})^2$ = 144✓ Sum of squares of the other two sides $=AC^2+ BC^2$ $=(9\text{ cm})^2+ (7\text{ cm})^2$✓ $=81+ 49$ $=130$✓ $144\neq 130$ $(\text{longest side})^2\neq$ 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	$s = \frac{200}{4} = 50m \checkmark$ $\text{Area} = s^2 \checkmark$ $= 50^2$ $= 2\,500\,m^2 \checkmark$	Determining length of one side: 1 mark Area formula: 1 mark Answer: 1 mark	(3)
6.3	$V = \pi r^2 \cdot H$ $= (3,142)(6)^2 \checkmark \cdot (7,5)^2 \checkmark$ $= 848,34\,cm^3 \checkmark$	Substitution: 2 marks Answer: 1 mark	(3)

Question 7**10**

7.1.1	Stem	Leaves		Stem: 1 mark Leaves: 1 mark	(2)
	51	0			
	52✓	3			
	53	3 4 7✓			
	54	4			
	55	5			
	56	4 8			
	58	8			
	59	0			
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= $\frac{5}{20} \checkmark = \frac{1}{4} \checkmark$			Relative: 1 mark Answer: 1 mark	(2)

MARKS= 100