SOUTHERN AFRICAN JUNIOR & SENIOR MATHEMATICS OLYMPIADS

FEMSISA MATHEMATICS OLYMPIADS

GRADE 8 - 11: 2023

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ANSWERS

NO.	GRADE EIGHT	GRADE NINE	GRADE TEN	GRADE ELEVEN
1	B (-100)	A(2 000)	D(1)	C(3)
2	A(2 200)	D(-3)	B(8x +4h- 1)	B($\frac{1}{10}$)
3	D (27)	C($27x^3$- 64)	A(-35)	A(3n-7)
4	C (4)	B($y = \frac{-3}{4}x + 5$)	C(y = 3x-7)	B(x≤ $\frac{1}{2}$or x> 2)
5	D (12)	D($\frac{2}{3X}$)	D($96x^2$+2)	D($\pm 2; \pm 3$)
6	C (650)	C(9)	B(-1 or $\frac{-5}{3}$)	B(7)
7	A (95^0)	A ($\frac{k+84}{14}$)	B(375)	A, B, C, D (All options)
8	A (60)	B(9)	C(8 000)	C(100)
9	B(12)	A(32^0)	A($\frac{3-2t}{2-2t}$)	A($y=x^2+2x$)
10	D(692)	D(90^0)	A(4)	C(-4)
11	A(40^0)	B(360)	C($\frac{6}{c(2c+1)}$)	C(2641)
12	A(75)	C(72)	B(4 284)	B(2;2)
13	C($\frac{2}{3}$)	D(2)	C($714\frac{2}{35}$)	D($\frac{1}{\frac{1}{cos\,\theta}-1}$)
14	B(14)	C(500)	A($\frac{-4}{3}; \frac{2}{3}$)	A(44)
15	C(175)	A(12)	C($27\sqrt{2}$)	C ($\frac{72}{120}$)
16	145^0	F	15	1 024
17	22	45	(-6;-10)	40^0
18	$6\frac{2}{3}$	70	60	5
19	111	4 080	9	3:2
20	3	180	01:58	420

1 – 15 = 15 X 1 MARKS = 15

16 – 20 = 5 X 2 MARKS = 10

TOTAL = 25

CERTIFICATES:

Gold: 17+

Silver: 12-16

Bronze: 8-11

Participation: 0-7