

FEMSSISA MATHEMATICS OLYMPIAD
GRADE 8-11: FINAL ROUND 2018
ANSWERS

GRADE 8		GRADE 9		GRADE 10		GRADE 11	
No		No		No		No	
1	16	1	6435; 7150	1	9	1	72
2	$2x$	2	-16	2	0	2	$\frac{c}{2a}$
3	5	3	42	3	$\frac{2c-1}{2c}$	3	$6x+h-\frac{2}{3}$
4	-7	4	54	4	$\frac{-5x}{(3y+1)(3y-1)}$	4	$\frac{-7}{4}$
5	8	5	-5	5	501 000	5	12
6	930	6	18	6	2	6	11
7	40^0	7	18	7	$877\frac{11}{12}$	7	$x < \frac{1}{2}$ or $x \geq \frac{5}{2}$
8	$\frac{51}{64}$	8	12	8	30	8	$\frac{3}{n}$
9	$20 + 2\pi$	9	150	9	60	9	$(3; \frac{3}{2})$
10	38	10	3	10	4	10	$\frac{1}{\cos^2 x}$
11	$\frac{16}{3}$	11	7	11	$(\frac{29}{40}; -2)$	11	144
12	12	12	e	12	6	12	$5\sqrt{x}$
13	4	13	$99x+99$	13	27	13	$8\sqrt{3}$
14	-5	14	35000	14	6	14	$2; \frac{-7}{4}$
15	$\sqrt{61}$ cm	15	$12 - \frac{8}{3}x$	15	$\frac{t-4}{8}$	15	7
16	5	16	3	16	13	16	B(4;4)
17	10^0	17	16min past 5	17	$y = \frac{-4}{3}x$	17	$y = -4x^2+8x-3$
18	0 / 4	18	$384 - 64\pi$	18	1;2;4;8	18	$\frac{1}{2}$
19	3 /	19	8020	19	6	19	3:2
20	$\frac{7}{30}$	20	$\frac{1}{16}$	20	$\frac{44}{7}$	20	210

First 15: $15 \times 1 = 15$
 $5 \times 2 = 10$
 Total = 25

CERTIFICATES
 Gold: 17+
 Silver: 12-16

Bronze: 8-11
 Participation: 0-7