

48th MMPC Part I solutions

1	2		B		6.01
2	1	A			81/64
3	3			C	$C(30,16)*2^{14}$
4	4			D	$4*\pi/3$
5	3			C	5
6	2		B		360
7	3			C	$\log_3(8)$
8	1	A			170
9	4			D	$2*\sqrt{2}/3$
10	3			C	$f^{(-1)}(b)*f^{(-1)}(c)$
11	1	A			625/3888
12	2		B		$3*\pi$
13	5			E	$10*d/t$
14	2		B		1,998,001
15	4			D	4/9
16	2		B		80
17	1	A			6
18	3			C	-10
19	2		B		$3^{(3333)}, 2^{(5555)}, 6^{(2222)}$
20	5			E	11/2
21	3			C	2
22	4			D	$\sqrt{1-x^2}$
23	5			E	At least two sides are equal.
24	2		B		$r*(2-\sqrt{2})/4$
25	5			E	S contains exactly one real number.
26	4			D	$x < -1$ or $1 < x < 3$
27	2		B		$\{-2, 0\}$
28	3			C	432,000
29	4			D	1,792
30	1	A			$-1+\sqrt{2}$
31	3			C	only III.
32	1	A			$(-1+\sqrt{2*n+1})/2$
33	5			E	$x \geq 4$ or $x \leq 0$
34	4			D	$(dx-b)/(-cx+a)$
35	3			C	3
36	1	A			$10*(2-\sqrt{3})$
37	5			E	For any even integer n, $n^2-1$ is a multiple of 3.
38	3			C	16
39	2		B		27
40	4			D	5