

Item Analysis for the Forty-Eighth
Michigan Mathematics Prize Competition
 Part I, October 6, 2004

PROBLEM	ANSWER	RESPONSES											
		A		B		C		D		E		No Response	
		N	%	N	%	N	%	N	%	N	%	N	%
1	B	464	4.58	7317	72.26	429	4.24	163	1.61	1753	17.31	40	0.35
2	A	6753	67.25	1060	10.56	1163	11.58	502	5.00	563	5.61	125	1.09
3	C	1634	16.54	3144	31.82	2405	24.34	1429	14.46	1268	12.83	286	2.49
4	D	2564	25.57	1078	10.75	1924	19.18	2007	20.01	2456	24.49	137	1.19
5	C	1613	16.15	1423	14.25	3340	33.44	1627	16.29	1985	19.87	178	1.55
6	B	1434	14.28	2577	25.66	2139	21.30	1378	13.72	2515	25.04	123	1.07
7	C	1698	17.09	2076	20.90	3291	33.13	1552	15.62	1318	13.27	231	2.01
8	A	2263	22.51	2119	21.08	2236	22.24	1647	16.38	1788	17.79	113	0.98
9	D	1524	15.17	3050	30.35	2022	20.12	2048	20.38	1404	13.97	118	1.03
10	C	3106	31.09	2416	24.18	1980	19.82	1616	16.17	873	8.74	175	1.52
11	A	2219	22.00	1844	18.28	1113	11.03	1692	16.77	3219	31.91	79	0.69
12	B	974	9.81	2445	24.64	2046	20.62	3111	31.35	1348	13.58	242	2.11
13	E	2492	24.75	3493	34.69	1571	15.60	667	6.62	1847	18.34	96	0.84
14	B	882	8.83	2236	22.38	1245	12.46	836	8.37	4794	47.97	173	1.51
15	D	3274	32.47	925	9.17	1311	13.00	3166	31.40	1407	13.95	83	0.72
16	B	524	5.19	1406	13.93	588	5.83	567	5.62	7007	69.43	74	0.64
17	A	2386	23.66	1153	11.43	978	9.70	1698	16.84	3869	38.37	82	0.71
18	C	1201	12.05	1983	19.90	4177	41.91	1033	10.37	1572	15.77	200	1.74
19	B	1640	16.23	3204	31.71	910	9.01	3211	31.78	1139	11.27	62	0.54
20	E	1805	18.10	2773	27.81	2619	26.27	1177	11.81	1596	16.01	196	1.71
21	C	2570	25.52	2194	21.79	2536	25.19	1193	11.85	1576	15.65	97	0.84
22	D	882	8.83	1421	14.23	2286	22.90	2986	29.91	2409	24.13	182	1.58
23	E	1481	14.72	1395	13.87	2868	28.51	2280	22.66	2036	20.24	106	0.92
24	B	1773	17.75	3562	35.65	2032	20.34	1080	10.81	1544	15.45	175	1.52
25	E	1353	13.69	2420	24.49	2412	24.41	2288	23.16	1408	14.25	285	2.48
26	D	3263	32.48	1311	13.05	1837	18.29	2876	28.63	758	7.55	121	1.05
27	B	1344	13.59	2826	28.57	1957	19.78	2217	22.41	1548	15.65	274	2.38
28	C	892	8.88	2446	24.36	1245	12.40	1817	18.09	3642	36.27	124	1.08
29	D	2623	26.41	2378	23.95	2285	23.01	1062	10.69	1582	15.93	236	2.05
30	A	2298	23.05	2954	29.63	1721	17.26	1473	14.77	1524	15.29	196	1.71
31	C	1646	16.39	2423	24.12	3131	31.17	2001	19.92	843	8.39	122	1.06
32	A	1229	12.40	2053	20.71	3171	31.98	1877	18.93	1585	15.99	251	2.18
33	E	3407	33.98	1203	12.00	1588	15.84	2519	25.12	1309	13.06	140	1.22
34	D	1090	10.93	4490	45.04	1510	15.15	1895	19.01	985	9.88	196	1.71
35	C	1799	18.02	1892	18.95	1999	20.03	1583	15.86	2709	27.14	184	1.60
36	A	1989	20.11	1917	19.38	3020	30.53	1888	19.08	1079	10.91	273	2.38
37	E	2365	23.79	1417	14.25	1762	17.72	1763	17.73	2635	26.50	224	1.95
38	C	1311	13.12	1937	19.39	4968	49.72	1169	11.70	606	6.07	175	1.52
39	B	1082	10.94	3692	37.32	2106	21.29	1731	17.50	1281	12.95	274	2.38
40	D	1142	11.42	2096	20.97	898	8.98	5284	52.86	576	5.76	170	1.48

Notes: Numbers for correct responses are **bolded**.
 Percentage of A-E responses taken from sum of A-E responses.
 Percentage of "No Response" taken from number of participants.