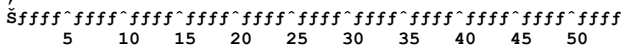


APPENDIX D: FREQUENCY DISTRIBUTION HISTOGRAMS OF SCALE SCORES

Table D.1. Scale Score Histogram for MSA-MOD Mathematics Assessment Grade 3
Histogram Bars

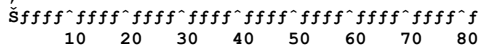
SS	Freq	Cum. Freq	Percent	Cum. Percent
2	1	1	0.12	0.12
17	1	2	0.12	0.24
24	1	3	0.12	0.36
26	1	4	0.12	0.48
28	7	11	0.83	1.31
30	7	18	0.83	2.14
32	10	28	1.19	3.33
34	25	53	2.97	6.29
35	16	69	1.90	8.19
37	28	97	3.33	11.52
38	37	134	4.39	15.91
40	44	178	5.23	21.14
41	34	212	4.04	25.18
43	40	252	4.75	29.93
44	54	306	6.41	36.34
45	42	348	4.99	41.33
47	42	390	4.99	46.32
48	37	427	4.39	50.71
49	30	457	3.56	54.28
51	41	498	4.87	59.14
52	29	527	3.44	62.59
53	31	558	3.68	66.27
55	23	581	2.73	69.00
56	29	610	3.44	72.45
57	33	643	3.92	76.37
59	31	674	3.68	80.05
60	18	692	2.14	82.19
62	16	708	1.90	84.09
63	14	722	1.66	85.75
65	15	737	1.78	87.53
66	13	750	1.54	89.07
68	11	761	1.31	90.38
70	18	779	2.14	92.52
71	9	788	1.07	93.59
73	10	798	1.19	94.77
76	10	808	1.19	95.96
78	5	813	0.59	96.56
80	9	822	1.07	97.62
83	2	824	0.24	97.86
86	4	828	0.48	98.34
90	9	837	1.07	99.41
95	2	839	0.24	99.64
98	3	842	0.36	100.00



Frequency

Table D.2. Scale Score Histogram for MSA-MOD Mathematics Assessment Grade 4
Histogram Bars

SS		Freq	Cum. Freq	Percent	Cum. Percent
23	/ *	2	2	0.16	0.16
27	/ **	3	5	0.24	0.40
29	/ **	3	8	0.24	0.64
30	/ ***	6	14	0.48	1.12
32	/ *****	16	30	1.28	2.40
34	/ *****	15	45	1.20	3.59
35	/ *****	23	68	1.84	5.43
37	/ *****	36	104	2.88	8.31
38	/ *****	52	156	4.15	12.46
40	/ *****	55	211	4.39	16.85
41	/ *****	55	266	4.39	21.25
42	/ *****	58	324	4.63	25.88
44	/ *****	56	380	4.47	30.35
45	/ *****	82	462	6.55	36.90
46	/ *****	59	521	4.71	41.61
47	/ *****	63	584	5.03	46.65
49	/ *****	69	653	5.51	52.16
50	/ *****	53	706	4.23	56.39
51	/ *****	63	769	5.03	61.42
52	/ *****	56	825	4.47	65.89
54	/ *****	45	870	3.59	69.49
55	/ *****	51	921	4.07	73.56
56	/ *****	51	972	4.07	77.64
58	/ *****	37	1009	2.96	80.59
59	/ *****	39	1048	3.12	83.71
60	/ *****	30	1078	2.40	86.10
62	/ *****	33	1111	2.64	88.74
63	/ *****	23	1134	1.84	90.58
65	/ *****	22	1156	1.76	92.33
66	/ *****	20	1176	1.60	93.93
68	/ *****	19	1195	1.52	95.45
70	/ *****	19	1214	1.52	96.96
72	/ ****	8	1222	0.64	97.60
74	/ **	4	1226	0.32	97.92
76	/ ****	9	1235	0.72	98.64
78	/ ***	6	1241	0.48	99.12
81	/ **	3	1244	0.24	99.36
84	/ *	1	1245	0.08	99.44
88	/ **	4	1249	0.32	99.76
93	/ *	2	1251	0.16	99.92
98	/ *	1	1252	0.08	100.00



Frequency

Table D.3. Scale Score Histogram for MSA-MOD Mathematics Assessment Grade 5
Histogram Bars

SS	Freq	Cum.	
		Freq	Percent
10	1	1	0.07
20	1	2	0.07
22	2	4	0.13
25	2	6	0.13
27	9	15	0.60
29	14	29	0.93
31	23	52	1.53
33	37	89	2.46
35	43	132	2.86
37	72	204	4.78
38	54	258	3.59
40	67	325	4.45
42	67	392	4.45
43	63	455	4.19
45	68	523	4.52
46	79	602	5.25
48	70	672	4.65
49	60	732	3.99
51	64	796	4.25
52	53	849	3.52
54	76	925	5.05
55	66	991	4.39
57	46	1037	3.06
58	59	1096	3.92
60	56	1152	3.72
61	48	1200	3.19
63	45	1245	2.99
65	44	1289	2.92
66	32	1321	2.13
68	44	1365	2.92
70	29	1394	1.93
72	26	1420	1.73
74	24	1444	1.59
76	14	1458	0.93
78	15	1473	1.00
81	13	1486	0.86
83	9	1495	0.60
86	1	1496	0.07
89	3	1499	0.20
93	2	1501	0.13
98	4	1505	0.27

~
 Sffff~ffff~ffff~ffff~ffff~ffff~ffff~ffff~
 10 20 30 40 50 60 70 80

Frequency

Table D.4. Scale Score Histogram for MSA-MOD Mathematics Assessment Grade 6
Histogram Bars

SS	Freq	Cum. Freq	Percent	Cum. Percent
13	1	1	0.06	0.06
25	6	7	0.38	0.45
27	5	12	0.32	0.77
29	10	22	0.64	1.41
31	13	35	0.83	2.24
33	14	49	0.90	3.14
35	29	78	1.86	5.00
36	38	116	2.43	7.43
38	43	159	2.75	10.19
40	53	212	3.40	13.58
41	65	277	4.16	17.75
43	62	339	3.97	21.72
44	69	408	4.42	26.14
46	77	485	4.93	31.07
47	82	567	5.25	36.32
49	100	667	6.41	42.73
50	85	752	5.45	48.17
51	87	839	5.57	53.75
53	83	922	5.32	59.06
54	75	997	4.80	63.87
56	68	1065	4.36	68.23
57	64	1129	4.10	72.33
59	56	1185	3.59	75.91
60	42	1227	2.69	78.60
61	50	1277	3.20	81.81
63	43	1320	2.75	84.56
65	29	1349	1.86	86.42
66	28	1377	1.79	88.21
68	28	1405	1.79	90.01
70	27	1432	1.73	91.74
71	22	1454	1.41	93.15
73	21	1475	1.35	94.49
75	11	1486	0.70	95.20
77	10	1496	0.64	95.84
80	14	1510	0.90	96.73
82	11	1521	0.70	97.44
85	8	1529	0.51	97.95
88	9	1538	0.58	98.53
92	12	1550	0.77	99.30
96	10	1560	0.64	99.94
98	1	1561	0.06	100.00

S f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~
 10 20 30 40 50 60 70 80 90 100

Frequency

Table D.5. Scale Score Histogram for MSA-MOD Mathematics Assessment Grade 7
Histogram Bars

SS		Cum. Freq	Cum. Freq	Percent	Cum. Percent
16	,**	3	3	0.18	0.18
19	,*	1	4	0.06	0.24
21	,**	3	7	0.18	0.42
24	,**	3	10	0.18	0.60
26	,****	9	19	0.54	1.13
29	,*****	19	38	1.13	2.26
31	,*****	30	68	1.79	4.05
33	,*****	18	86	1.07	5.12
35	,*****	40	126	2.38	7.50
37	,*****	66	192	3.93	11.44
38	,*****	65	257	3.87	15.31
40	,*****	84	341	5.00	20.31
42	,*****	67	408	3.99	24.30
44	,*****	96	504	5.72	30.02
45	,*****	106	610	6.31	36.33
47	,*****	101	711	6.02	42.35
49	,*****	83	794	4.94	47.29
50	,*****	95	889	5.66	52.95
52	,*****	94	983	5.60	58.55
54	,*****	87	1070	5.18	63.73
55	,*****	83	1153	4.94	68.67
57	,*****	87	1240	5.18	73.85
58	,*****	71	1311	4.23	78.08
60	,*****	69	1380	4.11	82.19
62	,*****	56	1436	3.34	85.53
64	,*****	44	1480	2.62	88.15
65	,*****	40	1520	2.38	90.53
67	,*****	41	1561	2.44	92.97
69	,*****	27	1588	1.61	94.58
71	,*****	20	1608	1.19	95.77
73	,*****	12	1620	0.71	96.49
75	,*****	13	1633	0.77	97.26
77	,*****	13	1646	0.77	98.03
79	,****	9	1655	0.54	98.57
82	,**	3	1658	0.18	98.75
84	,**	6	1664	0.36	99.11
87	,**	6	1670	0.36	99.46
90	,*	1	1671	0.06	99.52
94	,**	4	1675	0.24	99.76
98	,**	4	1679	0.24	100.00

S f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f ~ f f f f

10 20 30 40 50 60 70 80 90 100

Frequency

