**Appendix I
Calibration and Equating Summary**

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Tables and Figures

Calibration and Equating Summary

Overview

This appendix provides a brief summary of the operational calibration and equating of the 2005 MSA mathematics tests. These tests were calibrated and equated using the same statistical methods and procedures that were employed in 2004. However, the use of a pre-selected calibration sample this year necessitated some additional analyses to verify the adequacy of the obtained sample.

As discussed later in this appendix, the 2005 tests performed as expected and the equated forms at each grade level produced very similar scale score distributions, reflecting the effective spiraling of test forms. Although the common-item calibration and equating design does not require equivalent groups, the consistency of the scale score means and the similarity of the test characteristic curves does provide additional reassurance about the quality of the calibration and equating. The 2005 results were compared with the results from 2004, and were found to be consistent in terms of item parameters, scale score distributions, score trends.

The procedures used to calibrate and equate the 2005 MSA mathematics tests, and the results of those procedures, are summarized below.

Verifying the Adequacy of the Calibration Sample.

The case counts for schools in the 2005 calibration sample were compared with the case counts for these schools in the 2004 GRT. These comparisons indicated that the representation of the selected schools in our calibration sample was consistent with our expectations. The 2004 and 2005 case counts are provided in Table 1.

The 2005 calibration sample distribution by race and gender was compared with the total 2004 MSA population by race and gender. The results are shown in Tables 2 and 3.

Both of these comparisons indicated that we had achieved the desired calibration sample. The case counts were extremely close to the 2004 counts from these schools, and the proportional representation of ethnic groups and of males and females at each grade were all within 3 percent of the target values[1].

The distribution of the 2005 examinee population by race and gender is provided in Tables 3 and 4 in of the 2005 Technical Report. A comparison of the sample demographics with those of the 2005 MSA examinee population confirms the representativeness of the calibration sample.

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[1] The target value for each group was the exact proportional representation of that group tested in the calibration schools in 2004.

<u>Verifying the Accuracy of Items and Scoring Keys.</u>

Frequency distributions were examined to verify that items were producing the expected score distributions. Classical item analysis results also were examined and any marginal item statistics were compared with previous years' statistics for the same items.

The item analysis results were consistent with previous years' statistics, and no items were flagged as potential miskeys. The frequency distributions indicated that the constructed response items were yielding the full range of possible scores. The item analysis results are provided in Tables 4a to 9b. Raw score reliability coefficients ranged from .92 to .96.

<u>Checking the Stability of Common Items on Alternate Forms</u>

The stability of common items of common items on Form 1 and Form 2 was verified at each grade level, using the method proposed by Kolen and Brennan (1995):

(1) Calibrate the two operational test forms separately.

(2) Compare the *a* parameters (using log of *a*) and the *b* parameters for Form 1 and Form 2, and compare the parameter plots for Form 1 vs. Form 2.

After examining the item parameters and plots from the two separate calibrations, it was determined that the common item parameters were consistent across the two operational forms at each grade level, and that all of these items could be included as across-form anchors in the concurrent calibration of the two forms. The plots and item parameters from the separate calibrations are provided in Figures 1 to 6 and Tables 10 to 15.

<u>Calibrating and Equating the Two Operational Test Forms at Each Grade Level.</u>

At each grade level the two operational forms were calibrated together, using CTB's Pardux software to implement the same mixed model that was used in previous years (3PL for selected response items, and 2PPC for multiple choice items). All items converged within the specified number of iterations (i.e. < 100).

Each test form contained a representative set of anchor items from previous years' administrations, and these items were used to equate the item parameters and place the 2005 tests on the previous years' scale, using the Stocking and Lord test characteristic curve method. [2] The stability of the equating anchor items was evaluated using plots of the anchor item parameters, correlations, and root mean square errors.

The equating results showed high correlations for the *a* and *b* parameters, with no obvious outliers. As shown in Table 16, correlations of the estimated and anchor parameters ranged from .92 to .95 for the *a* parameters, and from .96 to .99 for the *b* parameters. The equating plots and test characteristic curves are shown in Figures 7 to 30.

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[2] Note, however, that the HOSS and LOSS values for grades 3, 5, and 8 were changed this year, making them consistent with the values set last year for grades 4, 6, and 7. Beginning in 2005, the LOSS is at 240 and the HOSS at 650 for every grade.

Checking the Equating Results for Reasonableness.

The following checks were used for this to verify the reasonableness of the equating results:

(1) The means and standard deviations of calibration sample students were compared for Form 1 vs. Form 2. If the spiraling of test forms was successful and the equating accurate, then the score distributions should be very similar for the two test forms.

(2) The test characteristic curves for Form 1 and Form 2 were compared.

(3) The 2005 scale scores and proficiency levels for the calibration sample were compared with the 2004 scale scores and proficiency levels for the schools in the calibration sample.

Figures 31 to 36 show the test characteristic curves and standard errors for Form 1 and Form 2 at each grade level. With the exception of Grade 7, the two test characteristic curves are virtually indistinguishable from one another. For Grade 7, however, Form 1 was somewhat more difficult than Form 2.   An examination of the item analysis results (see Tables 8a and 8b) reveals the fact that while the selected response and constructed response items are similar in difficulty across the two forms, the gridded response items are not. The mean p-value for the 12 gridded-response items on Form 1 is only .367, while the mean p-value for the 12 gridded response items on Form 2 is .535. These values are consistent with the relative difficulty of the items when they were field tested in 2004. The statistics for the Grade 7 gridded response items are summarized in Table 17.

As shown in Table 18, the scale scores for Form 1 and Form 2 were within one point of each other at Grades 3, 5, 7, and 8. Form differences were somewhat greater at Grade 4 and Grade 6 (2.28 and 1.76 points, respectively). To check whether or not these form differences might be an artifact of the combined calibration, the scale scores for these two grades were compared with the results of the separate (by form) calibrations. When these tests were rescored using the parameters from the separate calibrations, the form differences were similar to those obtained using the results of the combined calibration: 2.49 points for Grade 4 and 1.44 points for Grade 6.

Table 19 summarizes the annual changes in mean test scores for the schools in the 2005 calibration sample. It is noteworthy that the 2005 mean test scores were approximately 8 to 13 points higher than the 2004 means, with the largest increases occurring in Grades 4, 6, and 7. While these increases seem quite large, they appear to be consistent with the increases observed between 2003 and 2004 in Grades 3, 5, and 8.   The calibration sample scale score distributions for 2005 appear to be relatively normal, and very similar to the 2004 distributions. These scale score distributions are shown in Figures 37 to 42.   These distributions are also very similar to the 2005 population distributions, which can be found in Appendix G of the 2005 Technical Report.

Finally, the proportions of students achieving proficient or better performance in 2004 and 2005 were compared for schools in the calibration sample. These comparisons are shown in Figure 43. As would be expected from the year-to-year increase in mean scores, the proportion of students achieving proficient or better performance at each grade level in 2005 is higher than the proportion in 2004. The general trend across grades in 2005 is similar to 2004, with the

proportion of students at or above proficient performance generally decreasing from Grade 4 to Grade 6 and from Grade 7 to Grade 8, with relatively little change from Grade 6 to Grade 7.

Table 1. 2004 and 2005 Case Counts for Schools in the 2005 MSA Calibration Sample.

			2004		2005					
MSA 2005 CALIBRATION SAMPLE SCHOOLS										
LEA name	Sch No.	School name	Total N	Total N	Grd3 cases	Grd4 cases	Grd5 cases	Grd6 cases	Grd7 cases	Grd8 cases
ALLEGHANY CO PUB SCHOOLS	0502	NORTHEAST ELEMENTARY	128	122	51	40	31	0	0	0
ALLEGHANY CO PUB SCHOOLS	0702	BEL AIR ELEMENTARY	122	112	37	37	38	0	0	0
ALLEGHANY CO PUB SCHOOLS	0802	WESTMAR MIDDLE	340	327	0	0	0	112	107	108
ALLEGHANY CO PUB SCHOOLS	2902	PARKSIDE ELEMENTARY	132	140	45	42	53	0	0	0
ANNE ARUNDEL CO PUB SCH	1152	LINTHICUM ELEMENTARY	234	219	62	76	81	0	0	0
ANNE ARUNDEL CO PUB SCH	2043	SEVERNA PARK MIDDLE	1353	1350	0	0	0	455	459	436
ANNE ARUNDEL CO PUB SCH	2072	BENFIELD ELEMENTARY	202	211	73	72	66	0	0	0
ANNE ARUNDEL CO PUB SCH	2092	CAPE ST. CLAIRE ELEMENTARY	349	337	109	113	115	0	0	0
ANNE ARUNDEL CO PUB SCH	2212	SOLLEY ELEMENTARY	256	268	98	93	77	0	0	0
ANNE ARUNDEL CO PUB SCH	3152	VAN BOKKELEN ELEMENTARY	201	191	60	67	64	0	0	0
ANNE ARUNDEL CO PUB SCH	3343	OLD MILL MIDDLE SOUTH	861	846	0	0	0	269	287	290
ANNE ARUNDEL CO PUB SCH	3362	CROFTON MEADOWS ELEMENTARY	264	246	78	88	80	0	0	0
ANNE ARUNDEL CO PUB SCH	4192	HILLSMERE ELEMENTARY	179	189	60	64	65	0	0	0
ANNE ARUNDEL CO PUB SCH	4202	LOTHIAN ELEMENTARY	230	224	79	72	73	0	0	0
BALTIMORE CO PUB SCHOOLS	0112	DOGWOOD ELEMENTARY	307	312	106	97	109	0	0	0
BALTIMORE CO PUB SCHOOLS	0115	HILLCREST ELEMENTARY	335	331	99	106	126	0	0	0
BALTIMORE CO PUB SCHOOLS	0213	WINAND ELEMENTARY	303	293	105	88	100	0	0	0
BALTIMORE CO PUB SCHOOLS	0407	GLYNDON ELEMENTARY	279	254	83	87	84	0	0	0
BALTIMORE CO PUB SCHOOLS	0451	FRANKLIN MIDDLE	1446	1402	0	0	0	448	451	503
BALTIMORE CO PUB SCHOOLS	0811	PINEWOOD ELEMENTARY	266	263	82	87	94	0	0	0
BALTIMORE CO PUB SCHOOLS	0921	PINE GROVE ELEMENTARY	300	275	76	103	96	0	0	0
BALTIMORE CO PUB SCHOOLS	1205	BERKSHIRE ELEMENTARY	179	185	57	63	65	0	0	0
BALTIMORE CO PUB SCHOOLS	1251	DUNDALK MIDDLE	602	569	0	0	0	175	211	183
BALTIMORE CO PUB SCHOOLS	1310	RELAY ELEMENTARY	210	215	80	64	71	0	0	0
BALTIMORE CO PUB SCHOOLS	1505	VICTORY VILLA ELEMENTARY	166	148	51	53	44	0	0	0
BALTIMORE CO PUB SCHOOLS	1513	SUSSEX ELEMENTARY	199	190	52	60	78	0	0	0
CALVERT CO PUB SCHOOLS	0114	ST LEONARD ELEMENTARY	378	379	131	121	127	0	0	0
CALVERT CO PUB SCHOOLS	0302	BEACH ELEMENTARY	278	261	78	95	88	0	0	0
CALVERT CO PUB SCHOOLS	0315	NORTHERN MIDDLE	756	779	0	0	0	274	264	241
CAROLINE CO PUB SCHOOL	0401	PRESTON ELEMENTARY SCHOOL	208	183	52	73	58	0	0	0
CARROLL CO PUB SCHOOLS	0302	CHARLES CARROLL ELEMENTARY	175	165	55	55	55	0	0	0
CARROLL CO PUB SCHOOLS	0505	FREEDOM DISTRICT ELEMENTARY	331	326	96	128	102	0	0	0
CARROLL CO PUB SCHOOLS	0701	WESTMINSTER EAST MIDDLE	761	757	0	0	0	262	241	254
CARROLL CO PUB SCHOOLS	0714	FRIENDSHIP VALLEY ELEMENTARY	288	286	83	98	105	0	0	0
CECIL CO PUB SCHOOL	0206	BOHEMIA MANOR MIDDLE	551	549	0	0	0	179	179	191
CECIL CO PUB SCHOOL	0310	GILPIN MANOR ELEMENTARY	191	174	59	54	61	0	0	0
CECIL CO PUB SCHOOL	0513	CHARLESTOWN ELEMENTARY	81	77	23	22	32	0	0	0
CHARLES CO PUB SCHOOLS	0503	PICCOWAXEN MIDDLE SCHOOL	517	525	0	0	0	174	173	178
CHARLES CO PUB SCHOOLS	0609	DR. JAMES CRAIK ELEMENTARY S	203	191	52	74	65	0	0	0

District	Code	School							
CHARLES CO PUB SCHOOLS	0617	DANIEL OF ST. THOMAS JENIFER	385	347	104	118	125	0	0	0
CHARLES CO PUB SCHOOLS	0902	MALCOLM ELEMENTARY SCHOOL	268	260	93	79	88	0	0	0
DORCHESTER CO PUB SCHOOLS	0208	NORTH DORCHESTER MIDDLE	476	430	0	0	0	145	143	142
DORCHESTER CO PUB SCHOOLS	0711	MAPLE ELEMENTARY	158	155	48	51	56	0	0	0
FREDERICK CO PUB SCHOOLS	0210	NORTH FREDERICK ELEMENTARY	302	281	95	91	95	0	0	0
FREDERICK CO PUB SCHOOLS	0303	MIDDLETOWN ELEMENTARY	441	415	120	153	142	0	0	0
FREDERICK CO PUB SCHOOLS	2305	BALLENGER CREEK MIDDLE SCHOO	1169	737	0	0	0	236	240	261
FREDERICK CO PUB SCHOOLS	2403	WAVERLEY ELEMENTARY	187	195	71	66	58	0	0	0
GARRETT CO PUB SCHOOLS	0707	BROAD FORD ELEMENTARY	266	228	58	72	98	0	0	0
GARRETT CO PUB SCHOOLS	0812	SWAN MEADOW SCHOOL	47	42	7	7	3	15	6	4
HARFORD CO PUB SCHOOLS	0121	EMMORTON ELEMENTARY	299	312	94	102	116	0	0	0
HARFORD CO PUB SCHOOLS	0211	G. LISBY ELEMENTARY AT HILLS	201	185	50	63	72	0	0	0
HARFORD CO PUB SCHOOLS	0335	HOMESTEAD/WAKEFIELD ELEMENTA	499	491	151	173	167	0	0	0
HARFORD CO PUB SCHOOLS	0374	SOUTHAMPTON MIDDLE	1540	1532	0	0	0	526	526	480
HARFORD CO PUB SCHOOLS	0522	DUBLIN ELEMENTARY	132	130	36	45	49	0	0	0
HOWARD CO PUB SCHOOLS	0101	ELKRIDGE ELEMENTARY	372	390	118	133	139	0	0	0
HOWARD CO PUB SCHOOLS	0208	NORTHFIELD ELEMENTARY	336	335	111	114	110	0	0	0
HOWARD CO PUB SCHOOLS	0217	HOLLIFIELD STATION ELEMENTAR	416	420	136	134	150	0	0	0
HOWARD CO PUB SCHOOLS	0307	FOLLY QUARTER MIDDLE	655	625	0	0	0	185	232	208
HOWARD CO PUB SCHOOLS	0515	RUNNING BROOK ELEMENTARY	143	141	37	47	57	0	0	0
HOWARD CO PUB SCHOOLS	0613	JEFFERS HILL ELEMENTARY	188	186	68	57	61	0	0	0
HOWARD CO PUB SCHOOLS	0625	GORMAN CROSSING ELEMENTARY	268	270	70	104	96	0	0	0
KENT CO PUB SCHOOLS	0106	GALENA MIDDLE	247	261	0	0	69	57	69	66
KENT CO PUB SCHOOLS	0503	ROCK HALL MIDDLE	172	155	0	0	29	44	31	51
MONTGOMERY COUNTY PUB SCH	0102	GERMANTOWN ELEMENTARY	222	205	67	60	78	0	0	0
MONTGOMERY COUNTY PUB SCH	0153	POOLESVILLE ELEMENTARY	224	232	92	74	66	0	0	0
MONTGOMERY COUNTY PUB SCH	0209	LAKEWOOD ELEMENTARY	288	325	115	107	103	0	0	0
MONTGOMERY COUNTY PUB SCH	0236	MARK TWAIN SCHOOL	19	17	0	0	0	0	4	13
MONTGOMERY COUNTY PUB SCH	0305	JACKSON ROAD ELEMENTARY	239	230	68	83	79	0	0	0
MONTGOMERY COUNTY PUB SCH	0316	STONEGATE ELEMENTARY	249	225	67	88	70	0	0	0
MONTGOMERY COUNTY PUB SCH	0333	BENJAMIN BANNEKER MIDDLE	1066	917	0	0	0	256	314	347
MONTGOMERY COUNTY PUB SCH	0420	BANNOCKBURN ELEMENTARY	190	208	67	77	64	0	0	0
MONTGOMERY COUNTY PUB SCH	0514	JUDITH A. RESNIK ELEMENTARY	307	294	102	83	109	0	0	0
MONTGOMERY COUNTY PUB SCH	0553	GAITHERSBURG ELEMENTARY	236	227	83	60	84	0	0	0
MONTGOMERY COUNTY PUB SCH	0603	SEVEN LOCKS ELEMENTARY	134	136	48	43	45	0	0	0
MONTGOMERY COUNTY PUB SCH	0708	KINGSVIEW MIDDLE	1314	1251	0	0	0	416	426	409
MONTGOMERY COUNTY PUB SCH	0786	GEORGIAN FOREST ELEMENTARY	204	200	63	62	75	0	0	0
MONTGOMERY COUNTY PUB SCH	0812	PARKLAND MIDDLE	1160	1208	0	0	0	429	396	383
MONTGOMERY COUNTY PUB SCH	0818	COL. E. BROOKE LEE MIDDLE	630	628	0	0	0	192	212	224
PRINCE GEORGES CO PUB SCH	0109	JAMES H. HARRISON ELEMENTARY	260	240	58	69	54	59	0	0
PRINCE GEORGES CO PUB SCH	0305	PATUXENT ELEMENTARY	383	353	71	85	94	103	0	0
PRINCE GEORGES CO PUB SCH	0505	EUGENE BURROUGHS MIDDLE	798	787	0	0	0	171	270	346
PRINCE GEORGES CO PUB SCH	0606	BRADBURY HEIGHTS ELEMENTARY	350	293	55	72	84	82	0	0

PRINCE GEORGES CO PUB SCH	0617	FRANCIS SCOTT KEY ELEMENTARY	470	422	92	92	104	134	0	0
PRINCE GEORGES CO PUB SCH	0624	BERKSHIRE ELEMENTARY	270	262	54	68	64	76	0	0
PRINCE GEORGES CO PUB SCH	0648	SAMUEL P. MASSIE ELEMENTARY	426	438	110	102	126	100	0	0
PRINCE GEORGES CO PUB SCH	0651	THOMAS CLAGGETT ELEMENTARY	227	167	33	31	56	47	0	0
PRINCE GEORGES CO PUB SCH	0802	BADEN ELEMENTARY	184	174	46	51	41	36	0	0
PRINCE GEORGES CO PUB SCH	0912	ISAAC J. GOURDINE MIDDLE SCH	649	619	0	1	0	81	250	287
PRINCE GEORGES CO PUB SCH	1009	OAKLANDS ELEMENTARY	311	306	71	82	77	76	0	0
PRINCE GEORGES CO PUB SCH	1214	GLASSMANOR ELEMENTARY	229	194	37	49	60	48	0	0
PRINCE GEORGES CO PUB SCH	1307	HIGHLAND PARK ELEMENTARY	325	293	64	70	82	77	0	0
PRINCE GEORGES CO PUB SCH	1333	JUDGE SYLVANIA W. WOODS ELEM	371	380	86	99	104	91	0	0
PRINCE GEORGES CO PUB SCH	1510	JAMES MADISON MIDDLE	919	862	0	0	0	0	449	413
PRINCE GEORGES CO PUB SCH	1710	RIDGECREST ELEMENTARY	392	344	97	83	93	71	0	0
PRINCE GEORGES CO PUB SCH	1908	WILLIAM WIRT MIDDLE SCHOOL	846	718	0	0	0	35	336	347
PRINCE GEORGES CO PUB SCH	2113	SPRINGHILL LAKE ELEMENTARY	376	387	100	94	97	96	0	0
QUEEN ANNE'S CO PUB SCH	0302	KENNARD ELEMENTARY SCHOOL	438	460	148	163	149	0	0	0
QUEEN ANNE'S CO PUB SCH	0404	STEVENSVILLE MIDDLE SCHOOL	822	810	0	0	0	241	277	292
ST MARY'S COUNTY PUB SCH	0404	MARGARET BRENT MIDDLE	926	887	0	0	0	274	318	295
ST MARY'S COUNTY PUB SCH	0504	MECHANICSVILLE ELEMENTARY	141	144	43	48	53	0	0	0
ST MARY'S COUNTY PUB SCH	0805	GEORGE WASHINGTON CARVER ELE	167	154	44	51	59	0	0	0
SOMERSET CO PUB SCHOOLS	0102	WASHINGTON HIGH SCHOOL	109	136	0	0	0	0	0	136
SOMERSET CO PUB SCHOOLS	0301	MARION SARAH PEYTON SCHOOL	259	265	89	70	106	0	0	0
SOMERSET CO PUB SCHOOLS	1303	SOMERSET 6/7 INTERMEDIATE SC	**	505	0	0	0	243	262	0
TALBOT COUNTY PUB SCH	0106	EASTON MIDDLE	833	861	0	0	0	294	278	289
TALBOT COUNTY PUB SCH	0401	CHAPEL DISTRICT ELEMENTARY	171	179	57	58	64	0	0	0
WASHINTON COUNTY PUB SCH	0401	CLEAR SPRING MIDDLE	4555	435	0	0	0	124	148	163
WASHINTON COUNTY PUB SCH	0903	OLD FORGE ELEMENTARY	201	203	72	62	69	0	0	0
WASHINTON COUNTY PUB SCH	2301	CONOCOCHEAGUE ELEMENTARY	118	139	56	38	45	0	0	0
WICOMICO PUB SCHOOLS	0406	PITTSVILLE ELEMENTARY & MIDD	481	488	72	70	70	96	90	90
WORCESTER COUNTY PUB	0208	SNOW HILL MIDDLE	459	402	0	71	80	73	89	89
BALTIMORE CITY PUB SCHOOL	0008	CITY SPRINGS ELEMENTARY	184	190	38	46	51	35	20	0
BALTIMORE CITY PUB SCHOOL	0010	JAMES MCHENRY ELEMENTARY	207	182	56	61	65	0	0	0
BALTIMORE CITY PUB SCHOOL	0022	GEORGE WASHINGTON ELEMENTARY	133	116	39	39	38	0	0	0
BALTIMORE CITY PUB SCHOOL	0024	WESTSIDE ELEMENTARY	189	162	52	52	58	0	0	0
BALTIMORE CITY PUB SCHOOL	0025	DR. RAYNER BROWNE ELEMENTARY	68	55	18	18	19	0	0	0
BALTIMORE CITY PUB SCHOOL	0045	FEDERAL HILL ELEMENTARY	129	171	37	29	35	22	22	26
BALTIMORE CITY PUB SCHOOL	0046	CHINQUAPIN MIDDLE	834	889	0	0	0	276	326	287
BALTIMORE CITY PUB SCHOOL	0051	WAVERLY ELEMENTARY	323	403	76	71	84	104	68	0
BALTIMORE CITY PUB SCHOOL	0061	JOHN EAGER HOWARD ELEMENTARY	98	71	18	30	23	0	0	0
BALTIMORE CITY PUB SCHOOL	0063	ROSEMONT ELEMENTARY	140	142	48	48	46	0	0	0
BALTIMORE CITY PUB SCHOOL	0080	WEST BALTIMORE MIDDLE	1119	1122	0	0	0	324	412	386
BALTIMORE CITY PUB SCHOOL	0083	WILLIAM PACA ELEMENTARY	414	371	125	133	113	0	0	0
BALTIMORE CITY PUB SCHOOL	0124	BAY-BROOK ELEMENTARY	141	138	48	45	45	0	0	0
BALTIMORE CITY PUB SCHOOL	0133	PAUL LAURENCE DUNBAR MIDDLE	459	461	0	0	0	166	167	128

BALTIMORE CITY PUB SCHOOL	0209	WINSTON MIDDLE	520	537	0	0	0	136	227	174
BALTIMORE CITY PUB SCHOOL	0234	ARLINGTON ELEMENTARY	318	255	81	93	81	0	0	0
BALTIMORE CITY PUB SCHOOL	0239	BENJAMIN FRANKLIN JR. MIDDLE	362	349	0	0	0	118	117	114
BALTIMORE/EDISON PARTNERSHIP	0107	GILMOR ELEMENTARY	339	314	69	85	96	64	0	0

** Somerset 6/7 Intermediate School did not test in 2004. This school was added to the calibration sample as a replacement for a previously selected school that did not test in 2005.

Table 2. Comparative Demographics by Gender

Grade	Gender	2004 Population			2005 Calibration Sample		2005-04 % Difference
		Frequency	Percent		Frequency	Percent	
3	Female	30,672	48.72		3,194	48.15	-0.56
	Male	32,242	51.21		3,422	51.59	0.38
	Not Specified	47	0.07		17	0.26	0.18
	Total	62,961			6,633		
4	Female	31,442	48.36		3,470	49.59	1.22
	Male	33,529	51.57		3,511	50.17	-1.40
	Not Specified	42	0.06		17	0.24	0.18
	Total	65,013			6,998		
5	Female	32,288	48.79		3,577	48.18	-0.62
	Male	33,841	51.14		3,842	51.74	0.61
	Not Specified	47	0.07		6	0.08	0.01
	Total	66,176			7,425		
6	Female	32,968	48.32		4,309	49.31	0.99
	Male	35,224	51.63		4,417	50.54	-1.08
	Not Specified	37	0.05		13	0.15	0.09
	Total	68,229			8,739		
7	Female	33,831	48.80		4,233	47.99	-0.81
	Male	35,463	51.15		4,563	51.73	0.58
	Not Specified	33	0.05		24	0.27	0.22
	Total	69,327			8,820		
8	Female	33,582	48.91		4,309	49.31	0.40
	Male	35,034	51.03		4,420	50.58	-0.44
	Not Specified	43	0.06		9	0.10	0.04
	Total	68,659			8,738		

Table 3. Comparative Demographics by Race

Grade	Race	2004 Population			2005 Calibration Sample		2005-04 % Difference
		Frequency	Percent		Frequency	Percent	
3	American Indian	254	0.40		24	0.36	-0.04
	Asian/Pacific Islander	3,119	4.95		336	5.07	0.11
	African American	23,818	37.83		2,464	37.15	-0.68
	White	31,270	49.67		3,415	51.48	1.82
	Hispanic	4,452	7.07		372	5.61	-1.46
	Not Specified	48	0.08		22	0.33	0.26
	Total	62,961			6,633		
4	American Indian	256	0.39		34	0.49	0.09
	Asian/Pacific Islander	3,178	4.89		341	4.87	-0.02
	African American	25,324	38.95		2,637	37.68	-1.27
	White	31,837	48.97		3,601	51.46	2.49
	Hispanic	4,374	6.73		356	5.09	-1.64
	Not Specified	44	0.07		29	0.41	0.35
	Total	65,013			6,998		
5	American Indian	262	0.40		25	0.34	-0.06
	Asian/Pacific Islander	3,043	4.60		347	4.67	0.08
	African American	25,952	39.22		2,845	38.32	-0.90
	White	32,700	49.41		3,790	51.04	1.63
	Hispanic	4,172	6.30		399	5.37	-0.93
	Not Specified	47	0.07		19	0.26	0.18
	Total	66,176			7,425		
6	American Indian	225	0.33		32	0.37	0.04
	Asian/Pacific Islander	3,135	4.59		344	3.94	-0.66
	African American	26,924	39.46		3,471	39.72	0.26
	White	33,799	49.54		4,282	49.00	-0.54
	Hispanic	4,103	6.01		580	6.64	0.62
	Not Specified	43	0.06		30	0.34	0.28
	Total	68,229			8,739		
7	American Indian	242	0.35		20	0.23	-0.12
	Asian/Pacific Islander	3,175	4.58		365	4.14	-0.44
	African American	26,969	38.90		3,310	37.53	-1.37
	White	34,831	50.24		4,455	50.51	0.27
	Hispanic	4,071	5.87		609	6.90	1.03
	Not Specified	39	0.06		61	0.69	0.64
	Total	69,327			8,820		
8	American Indian	239	0.35		29	0.33	-0.02
	Asian/Pacific Islander	3,135	4.57		357	4.09	-0.48
	African American	25,344	36.91		3,240	37.08	0.17
	White	35,907	52.30		4,454	50.97	-1.32
	Hispanic	3,987	5.81		635	7.27	1.46
	Not Specified	47	0.07		23	0.26	0.19
	Total	68,659			8,738		

Table 4a. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 3 Form 1

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
4000	0.74869	53.9058	12.2291	72	3	72	0.92671	3.31067
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
1		3992	8	0.87	0.26	0.20%		
2		3990	10	0.92	0.26	0.25%		
4		3961	39	0.88	0.35	0.98%		
10		3991	9	0.89	0.41	0.23%		
12		3980	20	0.90	0.34	0.50%		
13		3987	13	0.87	0.43	0.33%		
14		3984	16	0.88	0.29	0.40%		
16		3986	14	0.95	0.30	0.35%		
17		3985	15	0.92	0.28	0.38%		
18		3984	16	0.97	0.20	0.40%		
24		3985	15	0.97	0.25	0.38%		
31	A	3968	32	0.79	0.47	0.80%		
31	B	3945	55	0.51	0.54	1.38%		
32		3991	9	0.96	0.31	0.23%		
33		3974	26	0.65	0.37	0.65%		
34		3974	26	0.67	0.41	0.65%		
35		3967	33	0.67	0.29	0.83%		
36		3983	17	0.92	0.42	0.43%		
37		3979	21	0.49	0.20	0.53%		
38	A	3900	100	0.87	0.34	2.50%		
38	B	3934	66	0.68	0.50	1.65%		
39		3981	19	0.96	0.31	0.48%		
40		3972	28	0.78	0.49	0.70%		
41		3964	36	0.91	0.37	0.90%		
42		3978	22	0.91	0.24	0.55%		
43		3972	28	0.36	0.33	0.70%		
44		3958	42	0.81	0.35	1.05%		
45	A	3877	123	0.64	0.45	3.08%		
45	B	3895	105	0.61	0.56	2.63%		
46		3924	76	0.57	0.40	1.90%		
47		3930	70	0.89	0.49	1.75%		
48		3950	50	0.71	0.39	1.25%		
49		3932	68	0.75	0.41	1.70%		
50		3928	72	0.86	0.47	1.80%		
51		3980	20	0.45	0.43	0.50%		
52		3981	19	0.94	0.39	0.48%		
53		3983	17	0.81	0.34	0.43%		
54		3968	32	0.74	0.50	0.80%		
55		3975	25	0.92	0.43	0.63%		
56		3978	22	0.86	0.43	0.55%		
57		3965	35	0.70	0.49	0.88%		
58	A	3953	47	0.79	0.42	1.18%		
58	B	3940	60	0.71	0.46	1.50%		
59		3980	20	0.77	0.43	0.50%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
60		3949	51	0.85	0.37	1.28%		
61		3967	33	0.61	0.44	0.83%		
62		3955	45	0.52	0.40	1.13%		
63		3968	32	0.61	0.33	0.80%		
64		3948	52	0.79	0.45	1.30%		
65		3959	41	0.87	0.40	1.03%		
66	A	3921	79	0.72	0.42	1.98%		
66	B	3886	114	0.57	0.62	2.85%		
67		3967	33	0.85	0.23	0.83%		
68		3975	25	0.69	0.47	0.63%		
69		3978	22	0.58	0.49	0.55%		
70		3954	46	0.91	0.43	1.15%		
71		3970	30	0.72	0.59	0.75%		
72	A	3932	68	0.78	0.41	1.70%		
72	B	3920	80	0.65	0.43	2.00%		
73		3970	30	0.80	0.50	0.75%		
74		3944	56	0.56	0.43	1.40%		
75		3967	33	0.97	0.26	0.83%		
76		3966	34	0.53	0.28	0.85%		
77	A	3951	49	0.82	0.48	1.23%		
77	B	3929	71	0.54	0.52	1.78%		

Table 4b. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 3 Form 2

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
2633	0.73159	52.6741	11.557	72	11	72	0.91951	3.27889
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
1		2628	5	0.86	0.29	0.19%		
2		2627	6	0.92	0.26	0.23%		
4		2609	24	0.88	0.30	0.91%		
10		2630	3	0.89	0.36	0.11%		
12		2624	9	0.91	0.32	0.34%		
13		2627	6	0.87	0.44	0.23%		
14		2623	10	0.88	0.25	0.38%		
16		2625	8	0.96	0.22	0.30%		
17		2625	8	0.91	0.30	0.30%		
18		2626	7	0.98	0.18	0.27%		
24		2622	11	0.97	0.29	0.42%		
31	A	2583	50	0.57	0.24	1.90%		
31	B	2593	40	0.64	0.52	1.52%		
32		2632	1	0.97	0.31	0.04%		
33		2625	8	0.64	0.38	0.30%		
34		2621	12	0.66	0.42	0.46%		
35		2619	14	0.68	0.28	0.53%		
36		2623	10	0.92	0.38	0.38%		
37		2622	11	0.48	0.21	0.42%		
38	A	2590	43	0.63	0.05	1.63%		
38	B	2581	52	0.40	0.45	1.98%		
39		2620	13	0.96	0.27	0.49%		
40		2612	21	0.79	0.47	0.80%		
41		2600	33	0.91	0.36	1.25%		
42		2625	8	0.88	0.22	0.30%		
43		2613	20	0.35	0.35	0.76%		
44		2594	39	0.81	0.31	1.48%		
45	A	2605	28	0.67	0.47	1.06%		
45	B	2582	51	0.60	0.46	1.94%		
46		2599	34	0.57	0.40	1.29%		
47		2594	39	0.89	0.48	1.48%		
48		2611	22	0.71	0.42	0.84%		
49		2592	41	0.75	0.44	1.56%		
50		2595	38	0.85	0.45	1.44%		
51		2623	10	0.45	0.41	0.38%		
52		2624	9	0.94	0.41	0.34%		
53		2624	9	0.82	0.33	0.34%		
54		2615	18	0.74	0.52	0.68%		
55		2622	11	0.92	0.44	0.42%		
56		2620	13	0.86	0.45	0.49%		
57		2605	28	0.69	0.49	1.06%		
58	A	2618	15	0.90	0.34	0.57%		
58	B	2605	28	0.46	0.43	1.06%		
59		2619	14	0.77	0.41	0.53%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
60		2583	50	0.85	0.33	1.90%		
61		2613	20	0.60	0.48	0.76%		
62		2610	23	0.52	0.41	0.87%		
63		2610	23	0.58	0.31	0.87%		
64		2599	34	0.80	0.47	1.29%		
65		2612	21	0.88	0.38	0.80%		
66	A	2588	45	0.73	0.45	1.71%		
66	B	2562	71	0.58	0.62	2.70%		
67		2618	15	0.86	0.19	0.57%		
68		2619	14	0.69	0.46	0.53%		
69		2620	13	0.56	0.49	0.49%		
70		2602	31	0.91	0.36	1.18%		
71		2620	13	0.72	0.55	0.49%		
72	A	2604	29	0.79	0.41	1.10%		
72	B	2598	35	0.67	0.38	1.33%		
73		2621	12	0.81	0.48	0.46%		
74		2604	29	0.53	0.44	1.10%		
75		2615	18	0.96	0.27	0.68%		
76		2615	18	0.53	0.30	0.68%		
77	A	2616	17	0.84	0.46	0.65%		
77	B	2594	39	0.52	0.53	1.48%		

Table 5a. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 4 Form 1

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
4197	0.61389	43.5859	14.0437	71	3	71	0.93607	3.5509
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
1		4192	5	0.81	0.35	0.12%		
2		4192	5	0.67	0.32	0.12%		
3		4178	19	0.82	0.38	0.45%		
4		4151	46	0.61	0.38	1.10%		
10		3641	556	0.54	0.36	13.25%		
17		4185	12	0.90	0.39	0.29%		
18		4168	29	0.56	0.40	0.69%		
20		4186	11	0.75	0.39	0.26%		
27		4158	39	0.60	0.39	0.93%		
31		4108	89	0.50	0.47	2.12%		
33	A	4168	29	0.84	0.23	0.69%		
33	B	4148	49	0.38	0.47	1.17%		
34		4188	9	0.77	0.19	0.21%		
35		4185	12	0.79	0.42	0.29%		
36		4176	21	0.73	0.31	0.50%		
37		4178	19	0.89	0.37	0.45%		
38		4172	25	0.63	0.50	0.60%		
39		4181	16	0.82	0.38	0.38%		
40	A	4142	55	0.76	0.40	1.31%		
40	B	4125	72	0.47	0.58	1.72%		
41		4175	22	0.48	0.47	0.52%		
42		4164	33	0.56	0.46	0.79%		
43		4146	51	0.56	0.49	1.22%		
44		4123	74	0.51	0.40	1.76%		
45		4123	74	0.86	0.29	1.76%		
46		4107	90	0.45	0.47	2.14%		
47	A	3977	220	0.53	0.46	5.24%		
47	B	3939	258	0.32	0.61	6.15%		
48		4025	172	0.60	0.39	4.10%		
49		4005	192	0.38	0.37	4.58%		
50		3983	214	0.67	0.36	5.10%		
51		3966	231	0.85	0.32	5.50%		
52		3959	238	0.64	0.42	5.67%		
53		4190	7	0.82	0.40	0.17%		
54		4188	9	0.53	0.40	0.21%		
55		4191	6	0.87	0.29	0.14%		
56		4180	17	0.52	0.35	0.41%		
57		4184	13	0.87	0.21	0.31%		
58		4179	18	0.73	0.49	0.43%		
59		4181	16	0.43	0.35	0.38%		
60	A	4118	79	0.52	0.51	1.88%		
60	B	4080	117	0.38	0.61	2.79%		
61		4177	20	0.59	0.35	0.48%		
62		4173	24	0.82	0.38	0.57%		
63		4166	31	0.65	0.48	0.74%		
64		4157	40	0.57	0.43	0.95%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
65		4142	55	0.57	0.28	1.31%		
66		4131	66	0.73	0.46	1.57%		
67		4116	81	0.63	0.52	1.93%		
68	A	4026	171	0.63	0.51	4.07%		
68	B	4004	193	0.56	0.58	4.60%		
69		4192	5	0.68	0.37	0.12%		
70		4191	6	0.77	0.48	0.14%		
71		4191	6	0.62	0.39	0.14%		
72		4189	8	0.52	0.42	0.19%		
73		4188	9	0.89	0.23	0.21%		
74	A	4169	28	0.35	0.50	0.67%		
74	B	4150	47	0.40	0.51	1.12%		
75	A	4147	50	0.35	0.51	1.19%		
75	B	4127	70	0.45	0.56	1.67%		
76		4157	40	0.91	0.24	0.95%		
77		4145	52	0.74	0.51	1.24%		
78		4136	61	0.55	0.36	1.45%		
79		4130	67	0.75	0.44	1.60%		

Table 5b. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 4 Form 2

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
2802	0.62717	44.5293	13.9863	71	1	71	0.93793	3.48464
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
1		2798	4	0.83	0.29	0.14%		
2		2795	7	0.69	0.28	0.25%		
3		2794	8	0.84	0.37	0.29%		
4		2769	33	0.62	0.41	1.18%		
10		2459	343	0.54	0.40	12.24%		
17		2797	5	0.92	0.40	0.18%		
18		2789	13	0.57	0.38	0.46%		
20		2793	9	0.76	0.41	0.32%		
27		2782	20	0.62	0.41	0.71%		
31		2752	50	0.51	0.44	1.78%		
33	A	2781	21	0.81	0.47	0.75%		
33	B	2779	23	0.55	0.44	0.82%		
34		2797	5	0.92	0.30	0.18%		
35		2795	7	0.79	0.43	0.25%		
36		2791	11	0.74	0.32	0.39%		
37		2792	10	0.91	0.36	0.36%		
38		2787	15	0.64	0.54	0.54%		
39		2795	7	0.90	0.34	0.25%		
40	A	2788	14	0.50	0.42	0.50%		
40	B	2768	34	0.36	0.54	1.21%		
41		2790	12	0.51	0.45	0.43%		
42		2781	21	0.58	0.46	0.75%		
43		2773	29	0.69	0.44	1.04%		
44		2777	25	0.88	0.28	0.89%		
45		2765	37	0.53	0.39	1.32%		
46		2763	39	0.56	0.51	1.39%		
47	A	2639	163	0.48	0.53	5.82%		
47	B	2623	179	0.32	0.60	6.39%		
48		2720	82	0.83	0.39	2.93%		
49		2707	95	0.41	0.38	3.39%		
50		2701	101	0.69	0.33	3.61%		
51		2691	111	0.88	0.31	3.96%		
52		2688	114	0.62	0.42	4.07%		
53		2799	3	0.82	0.41	0.11%		
54		2797	5	0.52	0.42	0.18%		
55		2799	3	0.87	0.32	0.11%		
56		2791	11	0.75	0.50	0.39%		
57		2799	3	0.89	0.18	0.11%		
58		2782	20	0.46	0.30	0.71%		
59		2797	5	0.61	0.40	0.18%		
60	A	2780	22	0.94	0.19	0.79%		
60	B	2770	32	0.41	0.51	1.14%		
61		2791	11	0.60	0.33	0.39%		
62		2790	12	0.84	0.40	0.43%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
63		2786	16	0.68	0.47	0.57%		
64		2782	20	0.60	0.45	0.71%		
65		2771	31	0.58	0.29	1.11%		
66		2760	42	0.77	0.46	1.50%		
67		2752	50	0.65	0.53	1.78%		
68	A	2690	112	0.58	0.50	4.00%		
68	B	2676	126	0.44	0.62	4.50%		
69		2796	6	0.31	0.41	0.21%		
70		2793	9	0.76	0.52	0.32%		
71		2795	7	0.80	0.50	0.25%		
72		2792	10	0.50	0.47	0.36%		
73		2791	11	0.80	0.45	0.39%		
74	A	2739	63	0.33	0.57	2.25%		
74	B	2736	66	0.36	0.64	2.36%		
75	A	2758	44	0.60	0.56	1.57%		
75	B	2754	48	0.46	0.56	1.71%		
76		2769	33	0.62	0.53	1.18%		
77		2762	40	0.74	0.31	1.43%		
78		2757	45	0.90	0.29	1.61%		
79		2754	48	0.45	0.41	1.71%		

Table 6a. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 5 Form 1

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
4473	0.59024	43.6778	15.6448	74	4	74	0.94297	3.73604
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
2		4453	20	0.73	0.46	0.45%		
4		4455	18	0.68	0.46	0.40%		
6		4416	57	0.80	0.37	1.27%		
8		4311	162	0.62	0.44	3.62%		
12		4462	11	0.75	0.48	0.25%		
13		4470	3	0.79	0.23	0.07%		
17		4464	9	0.66	0.10	0.20%		
23		4461	12	0.67	0.54	0.27%		
26		4463	10	0.55	0.51	0.22%		
27		4451	22	0.66	0.56	0.49%		
28		4452	21	0.65	0.39	0.47%		
31		4421	52	0.60	0.50	1.16%		
32		4422	51	0.84	0.43	1.14%		
33	A	4451	22	0.59	0.62	0.49%		
33	B	4436	37	0.58	0.61	0.83%		
34		4465	8	0.91	0.31	0.18%		
35		4457	16	0.63	0.46	0.36%		
36		4459	14	0.66	0.39	0.31%		
37		4465	8	0.82	0.41	0.18%		
38		4462	11	0.60	0.28	0.25%		
39		4445	28	0.52	0.28	0.63%		
40	A	4231	242	0.62	0.39	5.41%		
40	B	4374	99	0.46	0.68	2.21%		
41		4458	15	0.51	0.45	0.34%		
42		4457	16	0.66	0.36	0.36%		
43		4457	16	0.33	0.23	0.36%		
44		4451	22	0.83	0.41	0.49%		
45		4441	32	0.70	0.39	0.72%		
46		4422	51	0.51	0.37	1.14%		
47	A	4328	145	0.34	0.51	3.24%		
47	B	4308	165	0.52	0.64	3.69%		
48		4292	181	0.41	0.46	4.05%		
49		4269	204	0.36	0.33	4.56%		
50		4254	219	0.57	0.31	4.90%		
51		4214	259	0.65	0.51	5.79%		
52		4199	274	0.28	0.13	6.13%		
53		4455	18	0.58	0.43	0.40%		
54		4459	14	0.71	0.15	0.31%		
55		4460	13	0.45	0.39	0.29%		
56		4460	13	0.70	0.32	0.29%		
57	A	4421	52	0.53	0.53	1.16%		
57	B	4411	62	0.47	0.64	1.39%		
58		4459	14	0.70	0.50	0.31%		
59		4457	16	0.76	0.43	0.36%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
60		4445	28	0.74	0.47	0.63%		
61		4442	31	0.65	0.44	0.69%		
62		4432	41	0.54	0.47	0.92%		
63	A	4277	196	0.71	0.59	4.38%		
63	B	4250	223	0.57	0.57	4.99%		
64	A	4124	349	0.40	0.48	7.80%		
64	B	4046	427	0.29	0.54	9.55%		
65		4462	11	0.69	0.49	0.25%		
66		4457	16	0.43	0.32	0.36%		
67		4458	15	0.65	0.49	0.34%		
68		4456	17	0.74	0.43	0.38%		
69		4455	18	0.53	0.46	0.40%		
70	A	4411	62	0.68	0.51	1.39%		
70	B	4403	70	0.77	0.59	1.57%		
71		4454	19	0.61	0.46	0.42%		
72		4448	25	0.21	0.09	0.56%		
73		4447	26	0.59	0.54	0.58%		
74		4433	40	0.77	0.29	0.89%		
75		4404	69	0.80	0.42	1.54%		
76	A	4275	198	0.40	0.56	4.43%		
76	B	4238	235	0.40	0.61	5.25%		

Table 6b. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 5 Form 2

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
2955	0.61231	45.3107	15.1114	74	5	74	0.93691	3.79556
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
2		2941	14	0.72	0.44	0.47%		
4		2943	12	0.68	0.45	0.41%		
6		2925	30	0.82	0.38	1.02%		
8		2827	128	0.61	0.43	4.33%		
12		2951	4	0.77	0.45	0.14%		
13		2951	4	0.81	0.27	0.14%		
17		2946	9	0.67	0.11	0.30%		
23		2947	8	0.68	0.52	0.27%		
26		2946	9	0.55	0.49	0.30%		
27		2941	14	0.66	0.57	0.47%		
28		2941	14	0.64	0.38	0.47%		
31		2923	32	0.60	0.51	1.08%		
32		2923	32	0.83	0.42	1.08%		
33	A	2912	43	0.49	0.47	1.46%		
33	B	2898	57	0.58	0.54	1.93%		
34		2950	5	0.92	0.25	0.17%		
35		2946	9	0.65	0.43	0.30%		
36		2949	6	0.65	0.42	0.20%		
37		2946	9	0.82	0.37	0.30%		
38		2948	7	0.59	0.27	0.24%		
39		2927	28	0.48	0.30	0.95%		
40	A	2859	96	0.62	0.62	3.25%		
40	B	2843	112	0.54	0.74	3.79%		
41		2938	17	0.53	0.43	0.58%		
42		2935	20	0.64	0.38	0.68%		
43		2929	26	0.33	0.23	0.88%		
44		2919	36	0.83	0.40	1.22%		
45		2913	42	0.68	0.40	1.42%		
46		2901	54	0.51	0.33	1.83%		
47	A	2822	133	0.33	0.50	4.50%		
47	B	2796	159	0.50	0.62	5.38%		
48		2789	166	0.38	0.45	5.62%		
49		2779	176	0.34	0.30	5.96%		
50		2771	184	0.55	0.29	6.23%		
51		2736	219	0.67	0.53	7.41%		
52		2732	223	0.28	0.14	7.55%		
53		2948	7	0.58	0.43	0.24%		
54		2947	8	0.70	0.17	0.27%		
55		2946	9	0.44	0.40	0.30%		
56		2947	8	0.70	0.32	0.27%		
57	A	2944	11	0.89	0.07	0.37%		
57	B	2928	27	0.43	0.42	0.91%		
58		2950	5	0.71	0.50	0.17%		
59		2948	7	0.78	0.43	0.24%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
60		2945	10	0.76	0.48	0.34%		
61		2944	11	0.66	0.43	0.37%		
62		2944	11	0.57	0.48	0.37%		
63	A	2878	77	0.77	0.58	2.61%		
63	B	2865	90	0.64	0.57	3.05%		
64	A	2866	89	0.93	0.23	3.01%		
64	B	2867	88	0.52	0.49	2.98%		
65		2950	5	0.70	0.47	0.17%		
66		2949	6	0.44	0.32	0.20%		
67		2946	9	0.65	0.47	0.30%		
68		2950	5	0.75	0.44	0.17%		
69		2946	9	0.52	0.46	0.30%		
70	A	2917	38	0.68	0.51	1.29%		
70	B	2912	43	0.76	0.59	1.46%		
71		2949	6	0.61	0.42	0.20%		
72		2948	7	0.21	0.07	0.24%		
73		2942	13	0.61	0.53	0.44%		
74		2938	17	0.77	0.27	0.58%		
75		2918	37	0.80	0.40	1.25%		
76	A	2837	118	0.41	0.56	3.99%		
76	B	2802	153	0.43	0.60	5.18%		

Table 7a. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 6 Form 1

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
5252	0.52413	36.6889	15.0585	70	0	70	0.94077	3.66485
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
6		5089	163	0.70	0.46	3.10%		
13		5211	41	0.78	0.43	0.78%		
17		5220	32	0.74	0.40	0.61%		
18		5218	34	0.74	0.46	0.65%		
20		5217	35	0.69	0.53	0.67%		
32		5216	36	0.51	0.50	0.69%		
33		5200	52	0.39	0.29	0.99%		
34		5219	33	0.33	0.34	0.63%		
35		5201	51	0.63	0.35	0.97%		
36		5225	27	0.61	0.42	0.51%		
37		5209	43	0.47	0.59	0.82%		
38		5222	30	0.67	0.42	0.57%		
39		5204	48	0.58	0.27	0.91%		
40	A	4435	817	0.41	0.68	15.56%		
40	B	4405	847	0.31	0.70	16.13%		
41		5198	54	0.64	0.42	1.03%		
42		5210	42	0.52	0.38	0.80%		
43		5201	51	0.71	0.45	0.97%		
44		5200	52	0.68	0.51	0.99%		
45		5150	102	0.47	0.27	1.94%		
46		5190	62	0.63	0.48	1.18%		
47		5159	93	0.40	0.36	1.77%		
48		5144	108	0.30	0.28	2.06%		
49	A	4835	417	0.18	0.54	7.94%		
49	B	4766	486	0.33	0.64	9.25%		
50		5084	168	0.73	0.40	3.20%		
51		5032	220	0.54	0.42	4.19%		
52		5009	243	0.28	0.44	4.63%		
53		4960	292	0.39	0.32	5.56%		
54		4928	324	0.38	0.29	6.17%		
55		4831	421	0.43	0.37	8.02%		
56		4845	407	0.49	0.33	7.75%		
57		4824	428	0.59	0.48	8.15%		
58	A	4928	324	0.48	0.43	6.17%		
58	B	4922	330	0.59	0.54	6.28%		
59		5196	56	0.63	0.45	1.07%		
60		5203	49	0.46	0.42	0.93%		
61		5217	35	0.59	0.43	0.67%		
62		5187	65	0.58	0.38	1.24%		
63		5216	36	0.77	0.34	0.69%		
64	A	4884	368	0.21	0.50	7.01%		
64	B	4861	391	0.51	0.66	7.45%		
65		5184	68	0.86	0.41	1.30%		
66		5182	70	0.81	0.27	1.33%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
67		5144	108	0.55	0.46	2.06%		
68		5117	135	0.48	0.55	2.57%		
69	A	4795	457	0.42	0.55	8.70%		
69	B	4769	483	0.52	0.64	9.20%		
70		5220	32	0.69	0.36	0.61%		
71		5228	24	0.47	0.34	0.46%		
72		5222	30	0.73	0.42	0.57%		
73		5228	24	0.56	0.18	0.46%		
74		5216	36	0.45	0.35	0.69%		
75		5216	36	0.45	0.46	0.69%		
76		5219	33	0.45	0.27	0.63%		
77		5215	37	0.48	0.38	0.70%		
78	A	5107	145	0.65	0.55	2.76%		
78	B	5085	167	0.55	0.58	3.18%		
79		5197	55	0.68	0.51	1.05%		
80		5193	59	0.78	0.45	1.12%		
81	A	4879	373	0.16	0.41	7.10%		
81	B	4812	440	0.39	0.47	8.38%		

Table 7b. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 6 Form 2

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
3487	0.51987	36.3909	14.3327	70	1	70	0.93325	3.70313
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
6		3351	136	0.68	0.43	3.90%		
13		3461	26	0.78	0.43	0.75%		
17		3467	20	0.73	0.38	0.57%		
18		3453	34	0.74	0.43	0.98%		
20		3461	26	0.68	0.51	0.75%		
32		3467	20	0.51	0.47	0.57%		
33		3453	34	0.39	0.27	0.98%		
34		3465	22	0.33	0.30	0.63%		
35		3472	15	0.59	0.44	0.43%		
36		3468	19	0.71	0.38	0.54%		
37		3465	22	0.59	0.34	0.63%		
38		3453	34	0.57	0.23	0.98%		
39	A	3276	211	0.59	0.46	6.05%		
39	B	3332	155	0.37	0.61	4.45%		
40		3446	41	0.63	0.38	1.18%		
41		3454	33	0.35	0.34	0.95%		
42		3458	29	0.63	0.47	0.83%		
43		3416	71	0.29	0.18	2.04%		
44		3456	31	0.25	0.42	0.89%		
45		3408	79	0.41	0.29	2.27%		
46		3435	52	0.49	0.35	1.49%		
47		3431	56	0.32	0.43	1.61%		
48		3421	66	0.38	0.28	1.89%		
49	A	3261	226	0.19	0.53	6.48%		
49	B	3221	266	0.33	0.64	7.63%		
50		3370	117	0.72	0.40	3.36%		
51		3326	161	0.52	0.37	4.62%		
52		3289	198	0.50	0.27	5.68%		
53		3268	219	0.61	0.47	6.28%		
54		3231	256	0.32	0.27	7.34%		
55		3213	274	0.38	0.29	7.86%		
56		3159	328	0.37	0.33	9.41%		
57		3165	322	0.53	0.30	9.23%		
58	A	3310	177	0.32	0.40	5.08%		
58	B	3318	169	0.58	0.53	4.85%		
59		3449	38	0.64	0.40	1.09%		
60		3451	36	0.45	0.43	1.03%		
61		3451	36	0.58	0.41	1.03%		
62		3449	38	0.47	0.59	1.09%		
63		3436	51	0.57	0.37	1.46%		
64		3460	27	0.77	0.34	0.77%		
65	A	3309	178	0.42	0.53	5.11%		
65	B	3318	169	0.51	0.61	4.85%		
66		3437	50	0.79	0.26	1.43%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
67		3423	64	0.82	0.40	1.84%		
68		3396	91	0.54	0.42	2.61%		
69	A	3211	276	0.57	0.57	7.92%		
69	B	3192	295	0.66	0.61	8.46%		
70		3464	23	0.71	0.38	0.66%		
71		3469	18	0.89	0.27	0.52%		
72		3458	29	0.60	0.46	0.83%		
73		3457	30	0.60	0.49	0.86%		
74		3463	24	0.57	0.46	0.69%		
75		3435	52	0.69	0.40	1.49%		
76	A	3300	187	0.47	0.41	5.36%		
76	B	3316	171	0.52	0.55	4.90%		
77		3448	39	0.70	0.47	1.12%		
78		3441	46	0.21	0.14	1.32%		
79		3420	67	0.40	0.23	1.92%		
80		3433	54	0.52	0.35	1.55%		
81	A	3209	278	0.33	0.46	7.97%		
81	B	3172	315	0.32	0.65	9.03%		

Table 8a. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 7 Form 1

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
5278	0.46251	33.3009	15.9439	71	0	72	0.94998	3.56579
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
3		5200	78	0.52	0.42	1.48%		
9		4877	401	0.70	0.36	7.60%		
13		5239	39	0.62	0.55	0.74%		
15		5244	34	0.91	0.31	0.64%		
24		5233	45	0.60	0.56	0.85%		
32		5180	98	0.52	0.42	1.86%		
33		5227	51	0.26	0.38	0.97%		
34		5213	65	0.48	0.45	1.23%		
35		5238	40	0.21	0.41	0.76%		
36		5240	38	0.46	0.47	0.72%		
37	A	4713	565	0.45	0.42	9.78%		
37	B	4662	616	0.16	0.50	10.21%		
38		5228	50	0.57	0.54	0.95%		
39		5232	46	0.66	0.52	0.87%		
40		5227	51	0.61	0.41	0.97%		
41		5232	46	0.64	0.31	0.87%		
42		5225	53	0.41	0.16	1.00%		
43		5224	54	0.58	0.55	1.02%		
44	A	4869	409	0.47	0.61	6.95%		
44	B	4843	435	0.58	0.63	7.20%		
45		5226	52	0.61	0.50	0.99%		
46		5226	52	0.61	0.49	0.99%		
47		5226	52	0.70	0.46	0.99%		
48		5215	63	0.37	0.33	1.19%		
49		5219	59	0.56	0.26	1.12%		
50		5213	65	0.62	0.47	1.23%		
51		5200	78	0.33	0.28	1.48%		
52		5183	95	0.31	0.42	1.80%		
53	A	4187	1091	0.25	0.49	19.97%		
53	B	4211	1067	0.14	0.56	16.96%		
54		4684	594	0.19	0.55	11.25%		
55		4636	642	0.34	0.61	12.16%		
56		4623	655	0.37	0.63	12.41%		
57		4621	657	0.59	0.52	12.45%		
58		5237	41	0.52	0.47	0.78%		
59		5236	42	0.41	0.34	0.80%		
60		5231	47	0.77	0.32	0.89%		
61		5241	37	0.68	0.57	0.70%		
62		5239	39	0.60	0.59	0.74%		
63	A	5107	171	0.75	0.34	3.13%		
63	B	5118	160	0.61	0.45	2.58%		
64		4886	392	0.47	0.50	7.43%		
65		5070	208	0.38	0.41	3.94%		
66		4976	302	0.50	0.51	5.72%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
67		4807	471	0.34	0.46	8.92%		
68	A	4580	698	0.35	0.51	12.66%		
68	B	4569	709	0.54	0.60	12.13%		
69		5139	139	0.65	0.49	2.63%		
70		5101	177	0.40	0.42	3.35%		
71		5082	196	0.48	0.59	3.71%		
72		5074	204	0.60	0.49	3.87%		
73		5040	238	0.56	0.34	4.51%		
74		5045	233	0.38	0.44	4.42%		
75		5022	256	0.39	0.45	4.85%		
76	A	4887	391	0.50	0.49	6.63%		
76	B	4873	405	0.47	0.59	6.65%		
77		5056	222	0.18	0.43	4.21%		
78		5139	139	0.23	0.53	2.63%		
79		5026	252	0.29	0.65	4.78%		
80		5079	199	0.52	0.49	3.77%		
81	A	4796	482	0.14	0.46	8.19%		
81	B	4707	571	0.31	0.69	9.13%		

Table 8b. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 7 Form 2

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
3542	0.51772	37.2758	17.5085	71	0	72	0.95556	3.69107
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
3		3495	47	0.50	0.44	1.33%		
9		3262	280	0.69	0.36	7.91%		
13		3518	24	0.60	0.58	0.68%		
15		3518	24	0.90	0.31	0.68%		
24		3513	29	0.59	0.60	0.82%		
32		3478	64	0.53	0.41	1.81%		
33		3518	24	0.74	0.48	0.68%		
34		3481	61	0.52	0.47	1.72%		
35		3499	43	0.28	0.37	1.21%		
36		3500	42	0.49	0.46	1.19%		
37		3517	25	0.20	0.38	0.71%		
38		3500	42	0.57	0.54	1.19%		
39		3515	27	0.46	0.48	0.76%		
40		3508	34	0.56	0.56	0.96%		
41	A	3332	210	0.31	0.58	5.48%		
41	B	3284	258	0.45	0.62	6.64%		
42		3506	36	0.67	0.55	1.02%		
43		3510	32	0.60	0.50	0.90%		
44		3513	29	0.64	0.45	0.82%		
45		3498	44	0.61	0.41	1.24%		
46		3499	43	0.56	0.24	1.21%		
47		3500	42	0.68	0.44	1.19%		
48		3489	53	0.39	0.30	1.50%		
49	A	3295	247	0.40	0.63	6.49%		
49	B	3232	310	0.53	0.69	7.62%		
50		3479	63	0.64	0.53	1.78%		
51		3464	78	0.32	0.30	2.20%		
52		3454	88	0.29	0.42	2.48%		
53	A	3171	371	0.61	0.45	9.91%		
53	B	3092	450	0.39	0.62	11.49%		
54		3226	316	0.62	0.57	8.92%		
55		3192	350	0.59	0.55	9.88%		
56		3137	405	0.49	0.62	11.43%		
57		3103	439	0.65	0.47	12.39%		
58		3516	26	0.44	0.36	0.73%		
59		3519	23	0.78	0.31	0.65%		
60		3524	18	0.66	0.59	0.51%		
61		3527	15	0.59	0.61	0.42%		
62	A	3434	108	0.61	0.40	2.94%		
62	B	3397	145	0.61	0.66	3.78%		
63		3215	327	0.29	0.43	9.23%		
64		3249	293	0.44	0.43	8.27%		
65		3395	147	0.65	0.50	4.15%		
66		3405	137	0.58	0.54	3.87%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
67	A	3311	231	0.46	0.69	5.96%		
67	B	3225	317	0.15	0.53	7.91%		
68		3454	88	0.37	0.32	2.48%		
69		3446	96	0.76	0.31	2.71%		
70		3431	111	0.49	0.60	3.13%		
71		3426	116	0.59	0.50	3.28%		
72		3391	151	0.55	0.35	4.26%		
73		3356	186	0.58	0.54	5.25%		
74		3369	173	0.38	0.43	4.88%		
75		3337	205	0.59	0.42	5.79%		
76	A	3336	206	0.33	0.64	5.31%		
76	B	3272	270	0.52	0.70	6.78%		
77		3469	73	0.54	0.55	2.06%		
78		3463	79	0.62	0.54	2.23%		
79		3424	118	0.66	0.38	3.33%		
80		3356	186	0.29	0.64	5.25%		
81	A	3281	261	0.49	0.62	6.92%		
81	B	3205	337	0.52	0.73	8.33%		

Table 9a. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 8 Form 1

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
4375	0.47055	35.7618	16.6074	75	0	76	0.94751	3.80491
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
2		4364	11	0.56	0.39	0.25%		
3		4353	22	0.30	0.41	0.50%		
6		4329	46	0.66	0.43	1.05%		
7		4296	79	0.63	0.37	1.81%		
13		4366	9	0.89	0.21	0.21%		
16		4365	10	0.88	0.36	0.23%		
20		4355	20	0.42	0.39	0.46%		
21		4355	20	0.73	0.35	0.46%		
26		4270	105	0.41	0.23	2.40%		
27		4282	93	0.60	0.49	2.13%		
29		4224	151	0.55	0.30	3.45%		
32		4349	26	0.36	0.43	0.59%		
33		4345	30	0.53	0.43	0.69%		
34		4314	61	0.55	0.38	1.39%		
35		4360	15	0.73	0.35	0.34%		
36		4360	15	0.74	0.44	0.34%		
37	A	4023	352	0.55	0.63	7.20%		
37	B	3955	420	0.48	0.67	8.41%		
38		4350	25	0.51	0.37	0.57%		
39		4352	23	0.70	0.37	0.53%		
40		4356	19	0.61	0.45	0.43%		
41		4356	19	0.32	0.43	0.43%		
42		4352	23	0.61	0.41	0.53%		
43		4357	18	0.68	0.34	0.41%		
44		4348	27	0.63	0.42	0.62%		
45		4347	28	0.32	0.53	0.64%		
46	A	4143	232	0.49	0.35	4.96%		
46	B	3978	397	0.51	0.57	7.93%		
47		4186	189	0.52	0.37	4.32%		
48		4068	307	0.17	0.38	7.02%		
49		3756	619	0.25	0.60	14.15%		
50		4154	221	0.79	0.41	5.05%		
51	A	3875	500	0.33	0.66	10.61%		
51	B	3712	663	0.29	0.73	13.26%		
52		4346	29	0.49	0.39	0.66%		
53		4346	29	0.30	0.29	0.66%		
54		4327	48	0.46	0.32	1.10%		
55		4351	24	0.55	0.41	0.55%		
56		4280	95	0.37	0.18	2.17%		
57		4327	48	0.56	0.35	1.10%		
58		4335	40	0.42	0.37	0.91%		
59		4328	47	0.45	0.32	1.07%		
60	A	3730	645	0.36	0.64	13.14%		
60	B	3660	715	0.47	0.68	14.29%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
61		4112	263	0.32	0.56	6.01%		
62		4158	217	0.32	0.44	4.96%		
63		4124	251	0.47	0.59	5.74%		
64		4104	271	0.52	0.42	6.19%		
65	A	4100	275	0.69	0.30	6.17%		
65	B	4098	277	0.63	0.56	6.01%		
66		4171	204	0.25	0.41	4.66%		
67		4098	277	0.26	0.19	6.33%		
68		4096	279	0.63	0.35	6.38%		
69		4089	286	0.50	0.34	6.54%		
70	A	4134	241	0.22	0.60	5.19%		
70	B	4083	292	0.32	0.70	6.03%		
71		4250	125	0.39	0.57	2.86%		
72		4300	75	0.61	0.44	1.71%		
73		4266	109	0.37	0.46	2.49%		
74		4041	334	0.34	0.59	7.63%		
75	A	3759	616	0.22	0.62	11.59%		
75	B	3642	733	0.24	0.71	13.23%		
76	A	4030	345	0.27	0.60	6.81%		
76	B	3944	431	0.45	0.63	8.32%		

Table 9b. Summary of Item Analysis Results for 2005 Calibration Sample, Grade 8 Form 2

N	Mean_P	Mean_TS	Std_TS	Max_TS	Min_TS	Perf_T	Alpha	SEM
4363	0.44773	34.0275	16.1124	75	3	76	0.94425	3.80449
itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
2		4346	17	0.55	0.38	0.39%		
3		4337	26	0.30	0.40	0.60%		
6		4321	42	0.65	0.42	0.96%		
7		4303	60	0.65	0.37	1.38%		
13		4348	15	0.89	0.21	0.34%		
16		4348	15	0.89	0.33	0.34%		
20		4334	29	0.43	0.38	0.66%		
21		4337	26	0.74	0.35	0.60%		
26		4260	103	0.41	0.25	2.36%		
27		4271	92	0.60	0.49	2.11%		
29		4221	142	0.57	0.28	3.26%		
32	A	4021	342	0.32	0.54	7.24%		
32	B	3879	484	0.28	0.57	9.49%		
33		4335	28	0.52	0.17	0.64%		
34		4345	18	0.61	0.38	0.41%		
35		4327	36	0.24	0.35	0.83%		
36		4338	25	0.59	0.42	0.57%		
37		4342	21	0.61	0.52	0.48%		
38		4330	33	0.71	0.31	0.76%		
39	A	4033	330	0.55	0.64	6.81%		
39	B	3933	430	0.48	0.66	8.50%		
40		4320	43	0.50	0.36	0.99%		
41		4334	29	0.51	0.37	0.66%		
42		4335	28	0.61	0.40	0.64%		
43		4329	34	0.31	0.41	0.78%		
44		4331	32	0.34	0.52	0.73%		
45		4330	33	0.75	0.44	0.76%		
46		4325	38	0.36	0.36	0.87%		
47	A	3894	469	0.32	0.65	9.95%		
47	B	3750	613	0.29	0.73	12.49%		
48		4212	151	0.35	0.46	3.46%		
49		3940	423	0.20	0.55	9.70%		
50		4022	341	0.21	0.50	7.82%		
51		3944	419	0.32	0.65	9.60%		
52		4329	34	0.49	0.37	0.78%		
53		4298	65	0.45	0.28	1.49%		
54		4338	25	0.35	0.20	0.57%		
55		4279	84	0.48	0.30	1.93%		
56		4326	37	0.48	0.40	0.85%		
57		4304	59	0.38	0.50	1.35%		
58	A	4170	193	0.43	0.38	4.29%		
58	B	3934	429	0.29	0.62	8.96%		
59		4084	279	0.29	0.51	6.40%		
60		4037	326	0.32	0.47	7.47%		

itemno	part	N	N_Miss	P_Val	CORR	Pct_Omit		
61		4093	270	0.27	0.31	6.19%		
62		3979	384	0.58	0.55	8.80%		
63	A	3862	501	0.45	0.59	10.47%		
63	B	3797	566	0.59	0.58	11.55%		
64		4186	177	0.41	0.35	4.06%		
65		4180	183	0.55	0.36	4.19%		
66		4120	243	0.46	0.31	5.57%		
67		4139	224	0.84	0.29	5.13%		
68		4027	336	0.26	0.16	7.70%		
69		4062	301	0.30	0.20	6.90%		
70	A	4170	193	0.22	0.60	4.13%		
70	B	4118	245	0.34	0.70	5.00%		
71		4284	79	0.50	0.46	1.81%		
72		4248	115	0.41	0.57	2.64%		
73		4218	145	0.37	0.53	3.32%		
74		4239	124	0.48	0.41	2.84%		
75	A	3736	627	0.21	0.59	11.99%		
75	B	3612	751	0.23	0.71	13.75%		
76	A	4171	192	0.70	0.41	3.83%		
76	B	4116	247	0.75	0.44	4.72%		

Figure 1. 2005 Grade 3 Common Item Parameter Comparison, Form 1 vs. Form 2
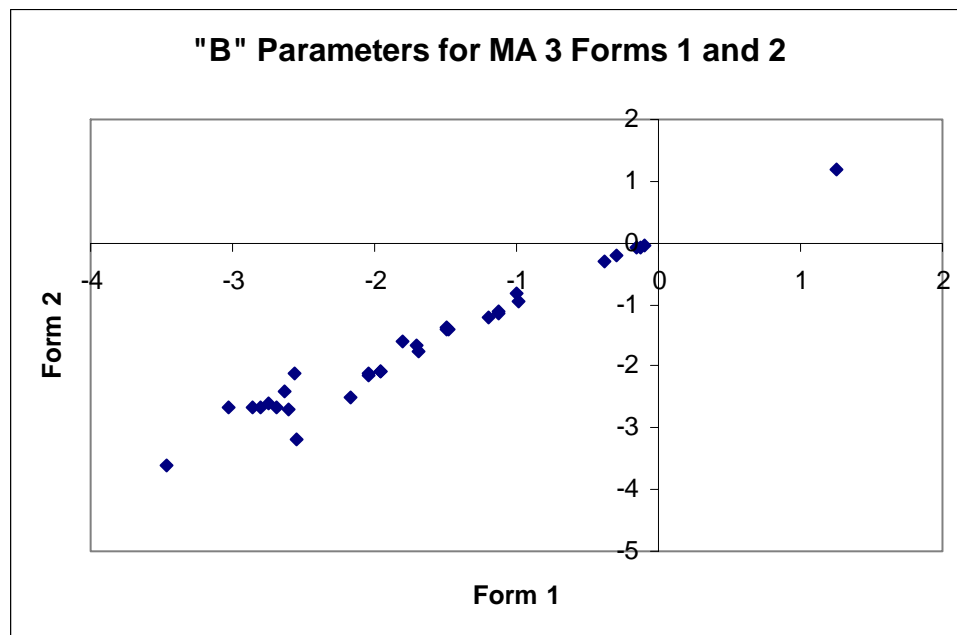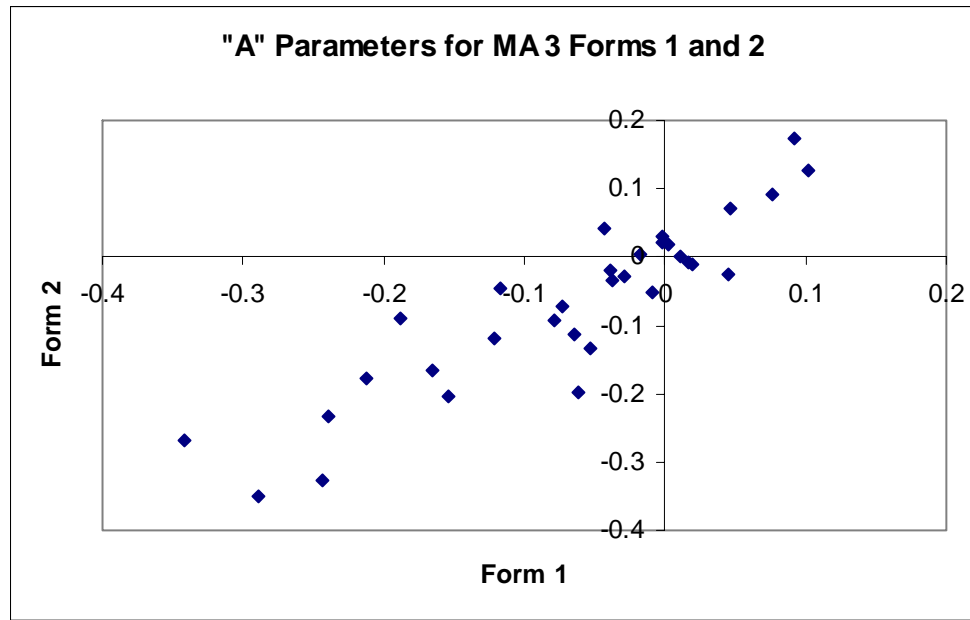
Table 10. Grade 3 Common Item Parameters

MA GRADE 3 Form 1 vs. Form 2 common items

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
1	0.4557	-2.5568	1	0.5400	-2.1035		-0.3413	-0.2676
2	0.5765	-2.8596	2	0.5841	-2.6592		-0.2392	-0.2335
4	0.7009	-2.0458	4	0.6240	-2.1456		-0.1544	-0.2048
10	0.8851	-1.9607	10	0.7363	-2.0764		-0.0530	-0.1329
12	0.7565	-2.0355	12	0.7597	-2.1090		-0.1212	-0.1194
13	0.9953	-1.4980	13	1.0754	-1.3817		-0.0020	0.0316
14	0.5710	-2.1646	14	0.4714	-2.4965		-0.2434	-0.3266
16	0.8673	-2.5483	16	0.6334	-3.1878		-0.0618	-0.1984
17	0.6137	-2.6399	17	0.6647	-2.3916		-0.2120	-0.1774
18	0.6841	-3.4700	18	0.6836	-3.5958		-0.1649	-0.1652
24	0.9040	-3.0326	24	1.1014	-2.6596		-0.0438	0.0419
32	0.9960	-2.6899	32	1.0486	-2.6567		-0.0017	0.0206
33	0.8459	-0.1002	33	0.8472	-0.0292		-0.0727	-0.0720
34	0.9155	-0.2939	34	0.9549	-0.2197		-0.0383	-0.0201
35	0.4883	-0.5737	35	0.4460	-0.6243		-0.3113	-0.3507
36	1.1099	-1.9509	36	0.9436	-2.0755		0.0453	-0.0252
37	0.6481	1.2496	37	0.8129	1.1927		-0.1883	-0.0900
39	0.9804	-2.6090	39	0.8868	-2.6982		-0.0086	-0.0522
40	0.9182	-1.1255	40	0.9243	-1.1275		-0.0370	-0.0342
41	0.8470	-2.0956	41	0.8606	-1.9520		-0.0721	-0.0652
42	0.5145	-2.7405	42	0.4464	-2.5905		-0.2886	-0.3503
43	1.2272	0.8903	43	1.0492	0.9178		0.0889	0.0209
44	0.6254	-1.4657	44	0.5472	-1.5028		-0.2038	-0.2619
46	0.9423	0.0896	46	0.8758	0.0584		-0.0258	-0.0576
47	1.1902	-1.7006	47	1.2343	-1.6626		0.0756	0.0914
48	0.6783	-0.7465	48	0.7699	-0.6630		-0.1686	-0.1136
49	0.7630	-0.9930	49	0.8990	-0.8299		-0.1175	-0.0462
50	1.0405	-1.4721	50	0.9801	-1.3957		0.0172	-0.0088
51	1.2765	0.4196	51	1.1637	0.5116		0.1060	0.0658
52	1.1495	-2.0979	52	1.2111	-1.9929		0.0605	0.0832
53	0.6142	-1.4419	53	0.6467	-1.4214		-0.2117	-0.1893
54	1.2885	-0.5940	54	1.3069	-0.6111		0.1101	0.1162
55	1.2362	-1.8000	55	1.4869	-1.5899		0.0921	0.1723
56	0.9589	-1.4954	56	1.0071	-1.3885		-0.0182	0.0031
57	1.2648	-0.3826	57	1.3419	-0.3051		0.1020	0.1277
59	1.0014	-0.7318	59	0.8204	-0.8992		0.0006	-0.0860
60	0.8629	-1.1283	60	0.7714	-1.1185		-0.0640	-0.1127
61	1.1118	-0.1282	61	1.1760	-0.0620		0.0460	0.0704
62	1.1560	0.3038	62	1.2339	0.3428		0.0629	0.0913
63	0.5509	-0.1928	63	0.5422	0.0938		-0.2589	-0.2658
64	1.0040	-0.9829	64	1.0418	-0.9551		0.0017	0.0178
65	0.8332	-1.6874	65	0.8076	-1.7650		-0.0793	-0.0928
66A	1.1546	-1.3323	66A	1.3209	-1.4012		0.0624	0.1209
66B	1.4302	-1.4993	66B	1.4604	-1.5782		0.1554	0.1645
67	0.4177	-2.3337	67	0.3675	-2.7810		-0.3792	-0.4348
68	0.9389	-0.5617	68	1.0760	-0.4131		-0.0274	0.0318
69	1.0241	-0.1479	69	1.0012	-0.0740		0.0104	0.0005
70	1.1069	-1.8192	70	0.8487	-2.0193		0.0441	-0.0713
71	1.3861	-0.6975	71	1.3381	-0.5856		0.1418	0.1265
72A	1.1285	-1.6779	72A	1.1495	-1.7532		0.0525	0.0605

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
72B	0.6860	-1.0710	72B	0.5947	-1.0125		-0.1637	-0.2257
73	1.0456	-1.1972	73	0.9729	-1.1927		0.0194	-0.0120
74	1.0389	0.1205	74	1.0929	0.2278		0.0166	0.0386
75	0.9352	-2.8036	75	0.9393	-2.6813		-0.0291	-0.0272
76	0.5712	0.4032	76	0.6270	0.4239		-0.2432	-0.2027
77A	1.5743	-2.3389	77A	1.5542	-2.3821		0.1971	0.1915
77B	1.0377	-1.2581	77B	1.0957	-1.1753		0.0161	0.0397

Figure 2. 2005 Grade 4 Common Item Parameter Comparison, Form 1 vs. Form 2
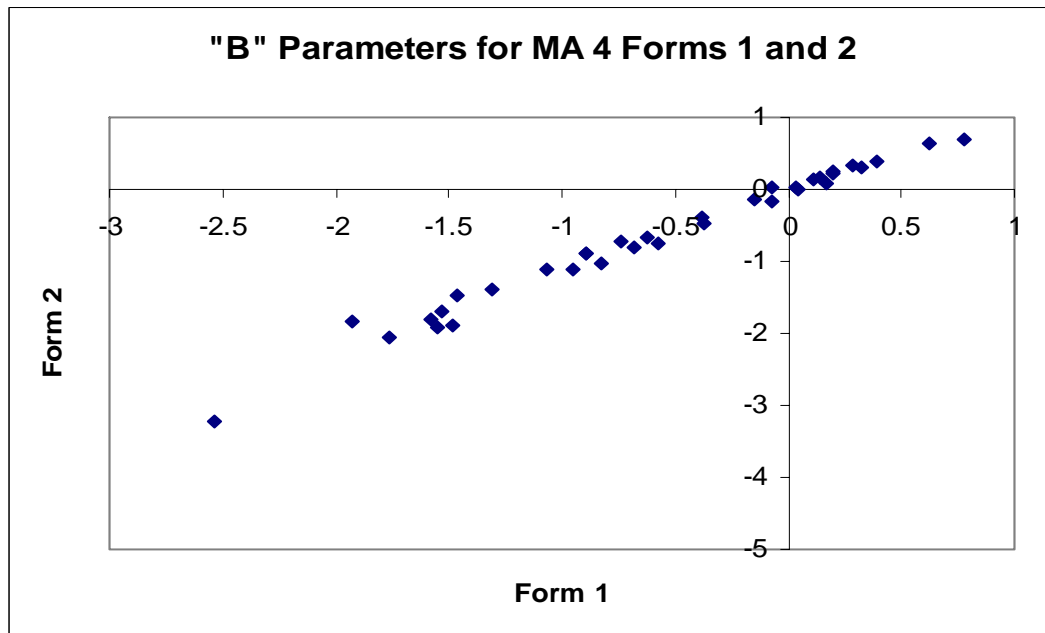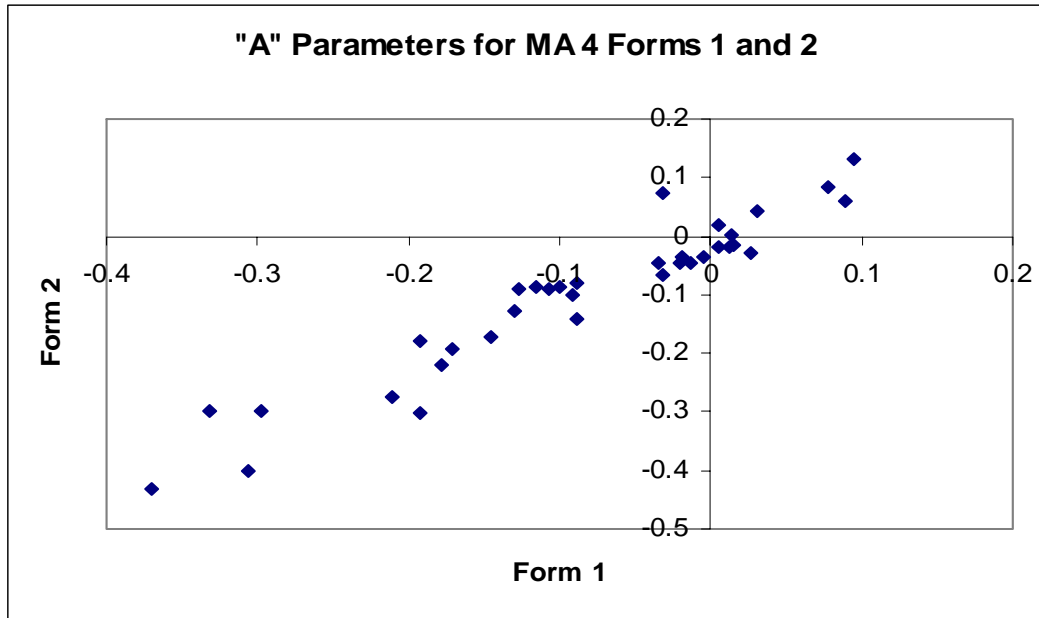
Table 11. Grade 4 Common Item Parameters

MA GRADE 4 Form 1 vs. Form 2 common items

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
1	0.6420	-1.4851	1	0.4981	-1.8880		-0.1925	-0.3027
2	0.4947	-0.8262	2	0.3975	-1.0152		-0.3056	-0.4007
3	0.9280	-0.9516	3	0.8595	-1.1008		-0.0324	-0.0658
4	0.9305	0.1999	4	1.1890	0.2154		-0.0313	0.0752
10	1.1953	0.6187	10	1.2117	0.6339		0.0775	0.0834
17	1.2281	-1.5289	17	1.1508	-1.7081		0.0892	0.0610
18	0.8144	0.1432	18	0.7197	0.1535		-0.0892	-0.1428
20	0.7806	-0.7348	20	0.8097	-0.7282		-0.1076	-0.0917
27	0.8145	0.0387	27	0.8326	-0.0116		-0.0891	-0.0795
31	1.0277	0.2842	31	0.9565	0.3321		0.0119	-0.0193
35	0.9551	-0.8935	35	0.9026	-0.8942		-0.0200	-0.0445
36	0.5042	-1.0648	36	0.5031	-1.1117		-0.2974	-0.2984
37	1.0358	-1.5754	37	0.9621	-1.8039		0.0153	-0.0168
38	1.2435	-0.1525	38	1.3546	-0.1258		0.0947	0.1318
39	0.8111	-1.3099	48	0.7952	-1.4018		-0.0909	-0.0995
41	1.0644	0.3190	41	0.9351	0.2977		0.0271	-0.0292
42	0.9564	0.0354	42	0.9192	0.0141		-0.0193	-0.0366
43	1.3621	0.1332	46	1.5247	0.2157		0.1342	0.1832
44	0.9243	0.3958	45	0.8991	0.3845		-0.0342	-0.0462
45	0.6645	-1.7626	44	0.6034	-2.0642		-0.1775	-0.2194
49	0.7428	0.7796	49	0.7438	0.7065		-0.1292	-0.1285
50	0.6154	-0.6787	50	0.5296	-0.8138		-0.2108	-0.2760
51	0.7146	-1.5548	51	0.6724	-1.9208		-0.1459	-0.1724
52	0.9887	-0.0765	52	0.9245	0.0357		-0.0049	-0.0341
53	1.0131	-0.8930	53	0.9549	-0.8855		0.0057	-0.0201
54	0.7459	0.1951	54	0.8129	0.2431		-0.1273	-0.0900
55	0.6417	-1.9246	55	0.6630	-1.8423		-0.1927	-0.1785
57	0.4267	-2.5378	57	0.3687	-3.2333		-0.3699	-0.4333
58	1.0752	-0.6200	56	1.1024	-0.6689		0.0315	0.0424
61	0.6750	0.1125	61	0.6437	0.1450		-0.1707	-0.1913
62	0.7665	-1.4607	62	0.8172	-1.4764		-0.1155	-0.0877
63	0.9685	-0.3726	63	0.9026	-0.4604		-0.0139	-0.0445
64	0.7933	-0.0722	64	0.8181	-0.1543		-0.1006	-0.0872
65	0.4654	0.1667	65	0.5043	0.0925		-0.3322	-0.2974
66	1.0323	-0.5738	66	1.0029	-0.7526		0.0138	0.0013
67	1.0108	-0.3806	67	1.0424	-0.3758		0.0047	0.0181

Figure 3. 2005 Grade 5 Common Item Parameter Comparison, Form 1 vs. Form 2
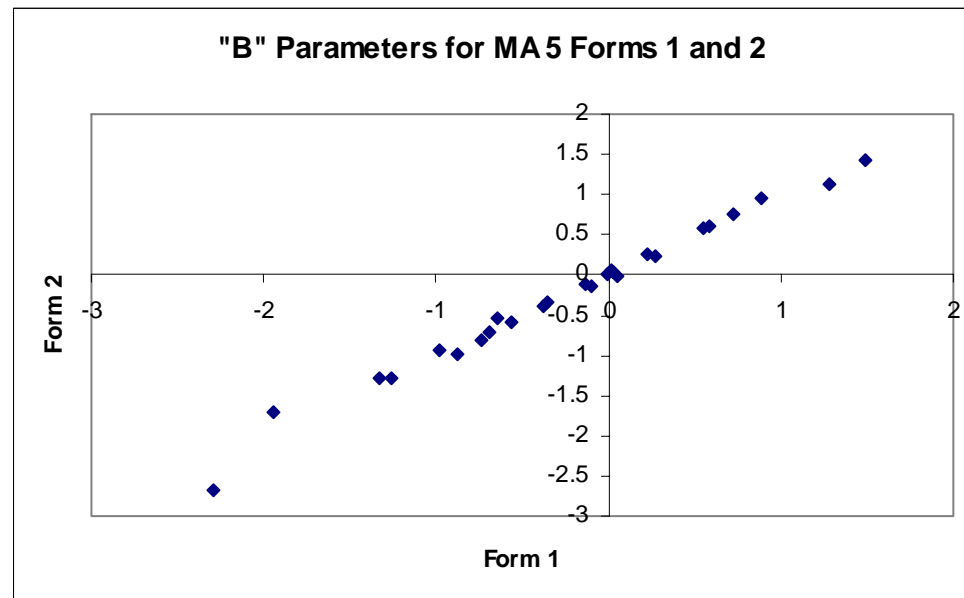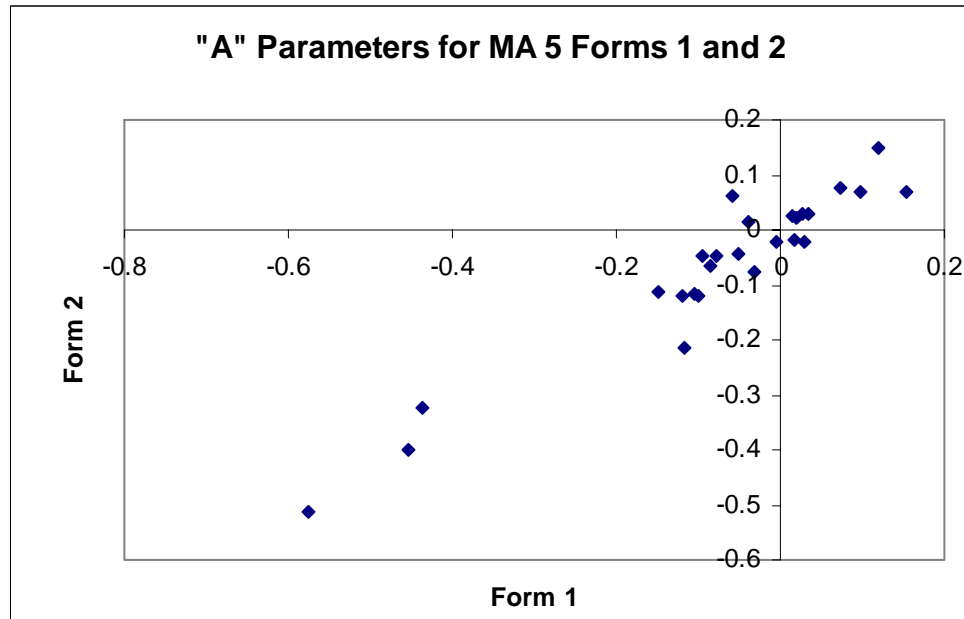
Table 12. Grade 5 Common Item Parameters

MA GRADE 5 Form 1 vs. Form 2 common items

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
2	0.7876	-0.9788	2	0.7640	-0.9409		-0.1037	-0.1169
4	0.7953	-0.6907	4	0.7595	-0.7139		-0.0995	-0.1195
6	0.7081	-1.2549	6	0.7743	-1.2753		-0.1499	-0.1111
8	1.0790	0.0201	8	1.0732	0.0588		0.0330	0.0307
12	1.0680	-0.7335	12	0.9543	-0.8056		0.0286	-0.0203
13	0.3655	-1.9493	13	0.4757	-1.6981		-0.4371	-0.3226
17	0.3528	1.2815	17	0.3996	1.1246		-0.4525	-0.3984
23	1.2511	-0.3769	23	1.1683	-0.4001		0.0973	0.0676
26	1.0488	0.0330	26	1.0521	0.0467		0.0207	0.0221
27	1.3179	-0.3539	27	1.4116	-0.3310		0.1199	0.1497
28	1.1864	0.2251	28	1.1943	0.2497		0.0742	0.0771
31	1.0666	-0.1023	31	1.0704	-0.1272		0.0280	0.0296
32	0.9878	-1.3296	32	0.9511	-1.2897		-0.0053	-0.0218
34	0.7622	-2.2889	34	0.6116	-2.6774		-0.1179	-0.2135
35	1.4281	0.0467	35	1.1763	-0.0074		0.1548	0.0705
36	0.9143	-0.0039	36	1.0379	0.0046		-0.0389	0.0162
37	0.8272	-1.3044	37	0.7424	-1.3709		-0.0824	-0.1294
38	0.8894	0.7260	38	0.9060	0.7584		-0.0509	-0.0429
39	0.8762	0.8824	39	1.1503	0.9507		-0.0574	0.0608
41	1.0405	0.2772	41	0.9611	0.2314		0.0173	-0.0172
43	0.8042	1.4882	43	0.8932	1.4322		-0.0946	-0.0491
44	0.8540	-1.3759	44	0.8590	-1.3182		-0.0686	-0.0660
45	0.6693	-0.7323	45	0.7097	-0.5443		-0.1744	-0.1489
46	0.9308	0.5499	46	0.8404	0.5848		-0.0311	-0.0755
47A	1.5557	0.8676	47A	1.5618	0.9283		0.1919	0.1936
47B	1.5710	-1.6524	47B	1.4162	-1.3128		0.1962	0.1511
48	1.1836	0.6148	48	1.1292	0.7012		0.0732	0.0528
49	1.0710	1.0410	49	0.7902	1.2231		0.0298	-0.1022
50	0.5565	0.2353	50	0.5120	0.2124		-0.2545	-0.2907
51	0.9247	-0.3812	51	1.0435	-0.3885		-0.0340	0.0185
52	0.8099	2.1773	52	0.5636	2.4113		-0.0916	-0.2490
53	0.7601	-0.1354	53	0.7582	-0.1101		-0.1191	-0.1202
54	0.2656	-0.6436	54	0.3080	-0.5304		-0.5758	-0.5115
55	0.8221	0.5899	55	0.8566	0.6023		-0.0851	-0.0672
56	0.5177	-0.7793	56	0.5247	-0.7176		-0.2860	-0.2801
58	1.0351	-0.5694	58	1.0576	-0.5751		0.0150	0.0243
59	0.8370	-0.8721	59	0.8933	-0.9839		-0.0773	-0.0490
60	0.9510	-0.7929	60	0.9827	-0.8681		-0.0218	-0.0076
61	0.9186	-0.2026	61	0.8317	-0.3627		-0.0369	-0.0800
62	0.9985	0.1132	62	1.0580	0.0201		-0.0007	0.0245
63A	2.0808	-1.7340	63A	2.3655	-2.3780		0.3182	0.3739
63B	1.0078	-0.2812	63B	1.1052	-0.6578		0.0034	0.0434
65	1.2872	-0.2822	65	1.0848	-0.4060		0.1096	0.0354
66	1.0788	0.9345	66	0.8522	0.8516		0.0329	-0.0694
67	1.1384	-0.1938	67	1.2135	-0.1318		0.0563	0.0840
68	0.8301	-0.8413	68	0.8686	-0.7932		-0.0809	-0.0612
69	0.9866	0.2086	69	1.0046	0.2336		-0.0059	0.0020
70A	1.5219	-1.1709	70A	1.5126	-1.1622		0.1824	0.1797
70B	1.5407	-3.2126	70B	1.4696	-3.0030		0.1877	0.1672

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
71	1.2274	0.0607	71	1.3197	0.1770		0.0890	0.1205
72	0.9248	2.5858	72	1.8664	2.1985		-0.0339	0.2710
74	0.5007	-1.2962	74	0.4540	-1.3896		-0.3004	-0.3429
75	0.8381	-1.2190	75	0.7794	-1.1753		-0.0767	-0.1082

Figure 4. 2005 Grade 6 Common Item Parameter Comparison, Form 1 vs. Form 2
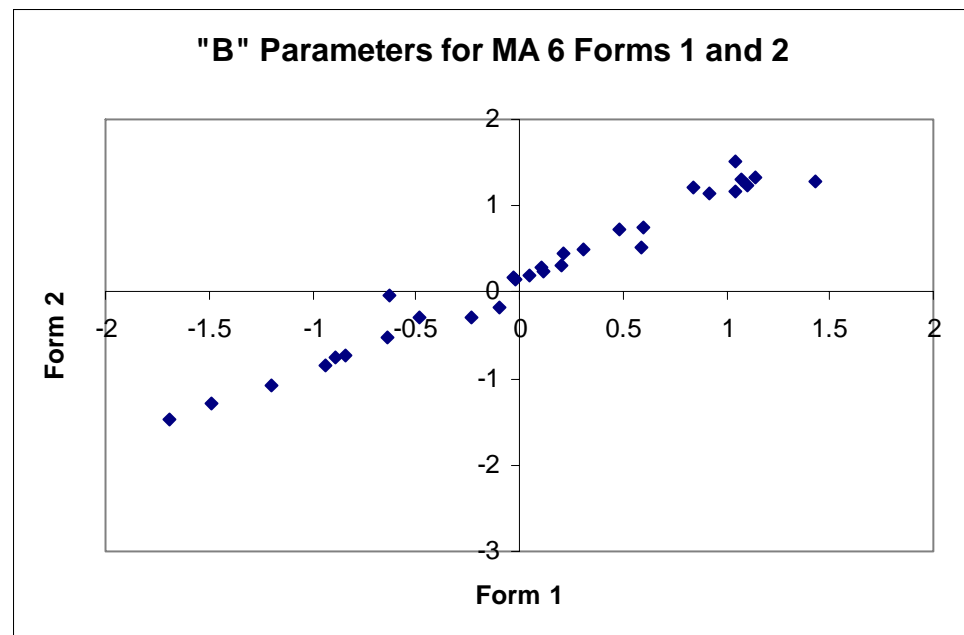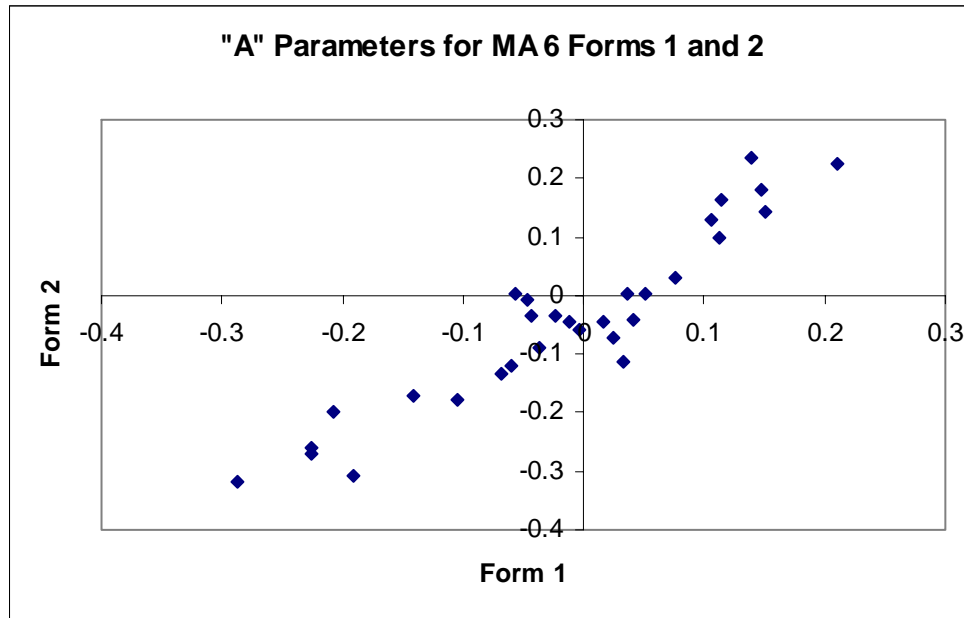
Table 13. Grade 6 Common Item Parameters

MA GRADE 6 Form 1 vs. Form 2 common items

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
6	0.8557	-0.8888	6	0.7377	-0.7452		-0.0677	-0.1321
13	1.0890	-0.8389	13	1.0056	-0.7424		0.0370	0.0024
17	0.7228	-0.9371	17	0.6719	-0.8365		-0.1410	-0.1727
18	1.1234	-0.6336	18	1.0085	-0.5267		0.0505	0.0037
20	1.2982	-0.4831	20	1.2544	-0.2936		0.1134	0.0984
32	0.9737	0.1176	32	0.9025	0.2516		-0.0116	-0.0446
33	1.1931	1.1434	33	1.0728	1.3216		0.0767	0.0305
34	0.7843	1.0697	34	0.6641	1.3105		-0.1055	-0.1777
36	0.8778	-0.0322	35	1.0032	0.1616		-0.0566	0.0014
38	0.9184	-0.2309	36	0.8119	-0.3008		-0.0370	-0.0905
39	0.5936	0.4842	38	0.5482	0.7331		-0.2265	-0.2611
41	1.0566	-0.0151	40	0.8481	0.1518		0.0239	-0.0715
43	0.9487	-0.6284	53	0.9263	-0.0366		-0.0229	-0.0332
45	1.4041	1.0451	45	1.5110	1.1686		0.1474	0.1793
48	1.0792	1.4324	48	0.7682	1.2732		0.0331	-0.1145
51	0.8725	0.2120	51	0.7611	0.4516		-0.0592	-0.1186
52	1.6217	0.9159	44	1.6837	1.1363		0.2100	0.2263
53	1.2740	1.0441	54	1.3489	1.5188		0.1052	0.1300
54	0.5941	1.1008	55	0.5388	1.2348		-0.2261	-0.2686
55	1.3772	0.8360	56	1.7128	1.2028		0.1390	0.2337
56	0.6445	0.5850	57	0.4922	0.5270		-0.1908	-0.3079
57	0.8972	-0.0975	42	0.9802	-0.1777		-0.0471	-0.0087
60	1.4126	0.6029	60	1.3853	0.7441		0.1500	0.1416
61	0.9045	0.0531	61	0.9248	0.2038		-0.0436	-0.0340
62	1.0368	0.3139	63	0.9013	0.5030		0.0157	-0.0451
63	0.6200	-1.2006	64	0.6355	-1.0866		-0.2076	-0.1969
65	1.0983	-1.4880	67	0.9119	-1.2827		0.0407	-0.0400
66	0.5159	-1.6920	66	0.4808	-1.4686		-0.2875	-0.3180
67	0.9914	0.1073	68	0.8735	0.2870		-0.0037	-0.0588
68	1.3011	0.2028	62	1.4547	0.3005		0.1143	0.1628

Figure 5. 2005 Grade 7 Common Item Parameter Comparison, Form 1 vs. Form 2
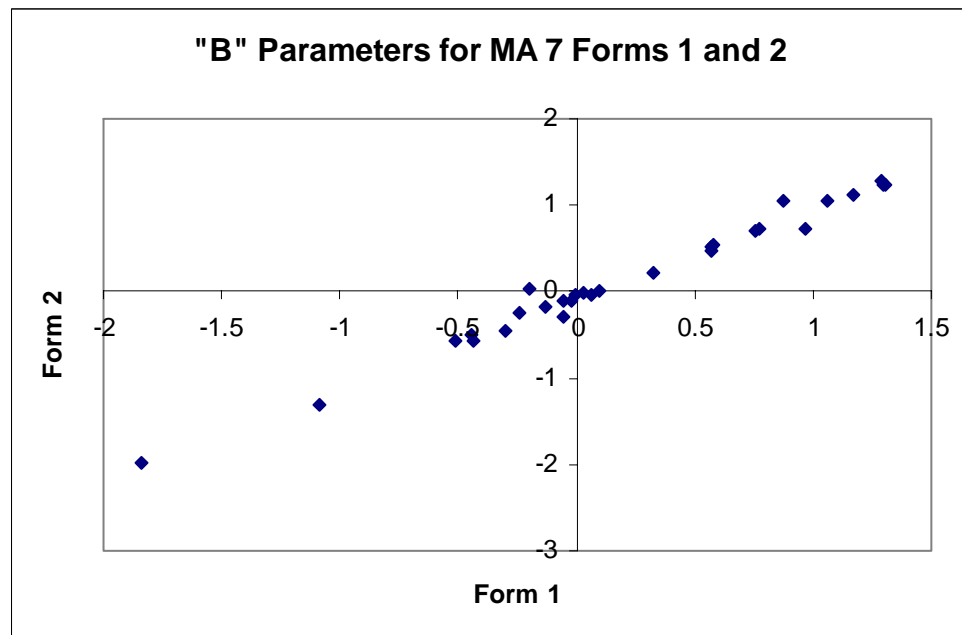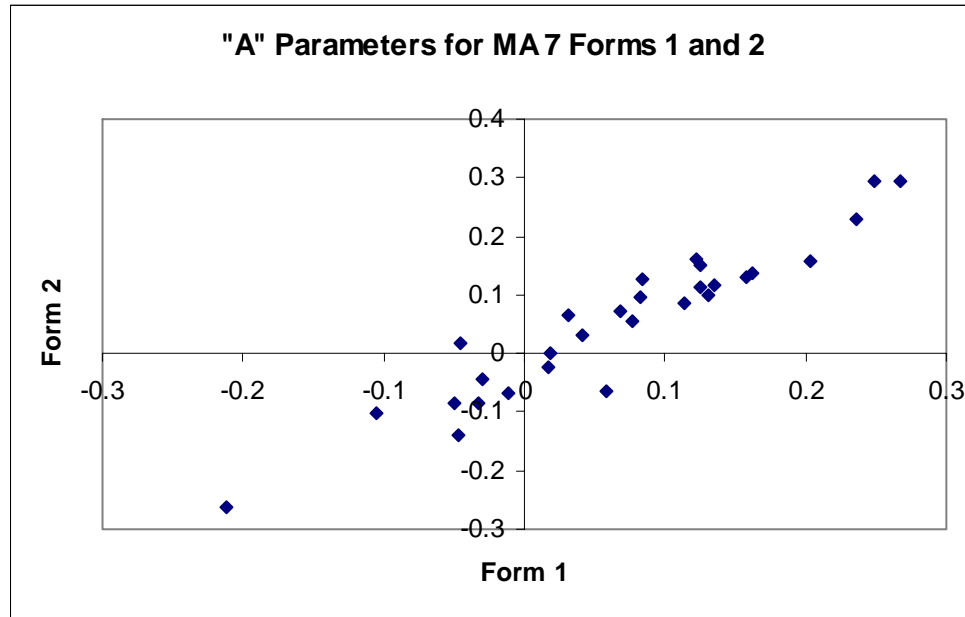
Table 14. Grade 7 Common Item Parameters

MA GRADE 7 Form 1 vs. Form 2 common items

FORM 1			FORM 2			FORM 1	FORM 2
item #	a	b	item #	a	b	LOG(a)	LOG(a)
3	1.3515	0.5774	3	1.2557	0.5348	0.1308	0.0989
9	0.9334	-0.0597	9	0.9055	-0.1148	-0.0300	-0.0431
13	1.2102	-0.2377	13	1.2501	-0.2501	0.0828	0.0969
15	0.9282	-1.8386	15	0.8256	-1.9736	-0.0324	-0.0833
24	1.3268	-0.1349	24	1.4442	-0.1861	0.1228	0.1596
32	1.2977	0.5674	32	1.2222	0.4650	0.1132	0.0871
33	1.0414	1.2971	35	0.9511	1.2272	0.0176	-0.0218
34	0.9837	0.4245	36	1.0232	0.3968	-0.0072	0.0100
35	1.5956	1.2870	37	1.4356	1.2878	0.2029	0.1570
36	1.3352	0.5665	39	1.4121	0.5141	0.1255	0.1499
38	1.4509	0.0946	38	1.3764	0.0065	0.1616	0.1387
39	1.0736	-0.4386	42	1.1580	-0.5791	0.0308	0.0637
40	0.8919	0.0614	45	0.8236	-0.0477	-0.0497	-0.0843
43	1.3640	-0.0020	40	1.3077	-0.0416	0.1348	0.1165
45	1.1925	-0.0189	43	1.1325	-0.1059	0.0765	0.0540
46	1.1424	-0.0516	44	0.8613	-0.2851	0.0578	-0.0649
47	0.9738	-0.5122	47	0.8562	-0.5638	-0.0115	-0.0674
48	0.8964	1.1696	48	0.7260	1.1190	-0.0475	-0.1390
50	0.9015	-0.2991	50	1.0416	-0.4482	-0.0451	0.0177
51	1.8496	1.3035	51	1.9622	1.2349	0.2671	0.2928
52	1.3329	1.0592	52	1.3013	1.0395	0.1248	0.1144
59	0.7837	0.9634	58	0.7936	0.7169	-0.1058	-0.1004
60	0.6134	-1.0834	59	0.5463	-1.3171	-0.2123	-0.2626
61	1.4403	-0.4476	60	1.3518	-0.5085	0.1584	0.1309
69	1.2114	-0.1989	73	1.3442	0.0209	0.0833	0.1285
70	1.0996	0.8737	68	1.0786	1.0617	0.0413	0.0329
71	1.7242	0.3271	70	1.6949	0.2154	0.2366	0.2291
72	1.1701	0.0265	71	1.1785	-0.0115	0.0682	0.0713
73	1.7724	0.7562	72	1.9729	0.7088	0.2486	0.2951
74	1.0435	0.7722	74	0.9992	0.7243	0.0185	-0.0004
79	2.7427	1.8392	80	2.5394	1.5441	0.4382	0.4047

Figure 6. 2005 Grade 8 Common Item Parameter Comparison, Form 1 vs. Form 2
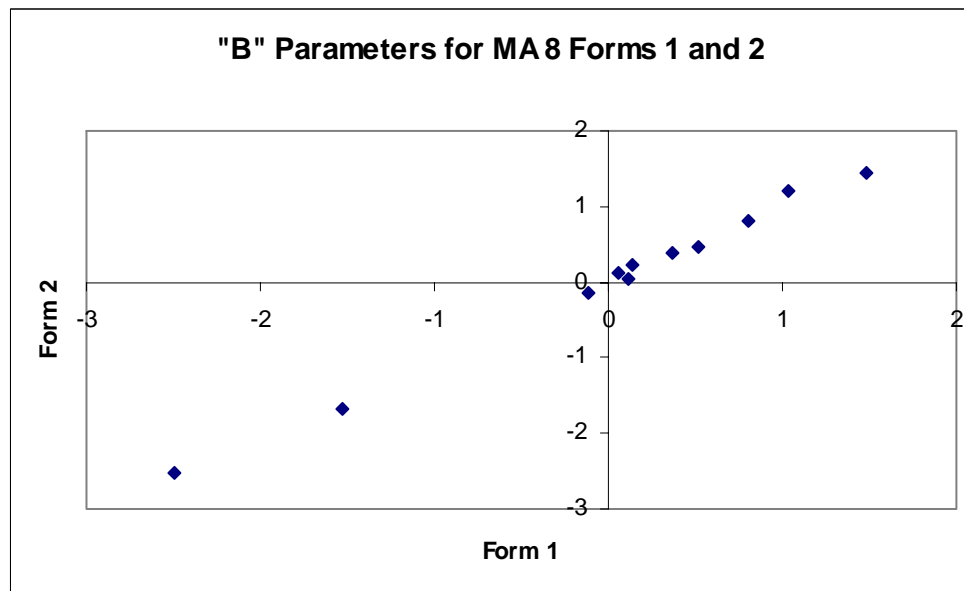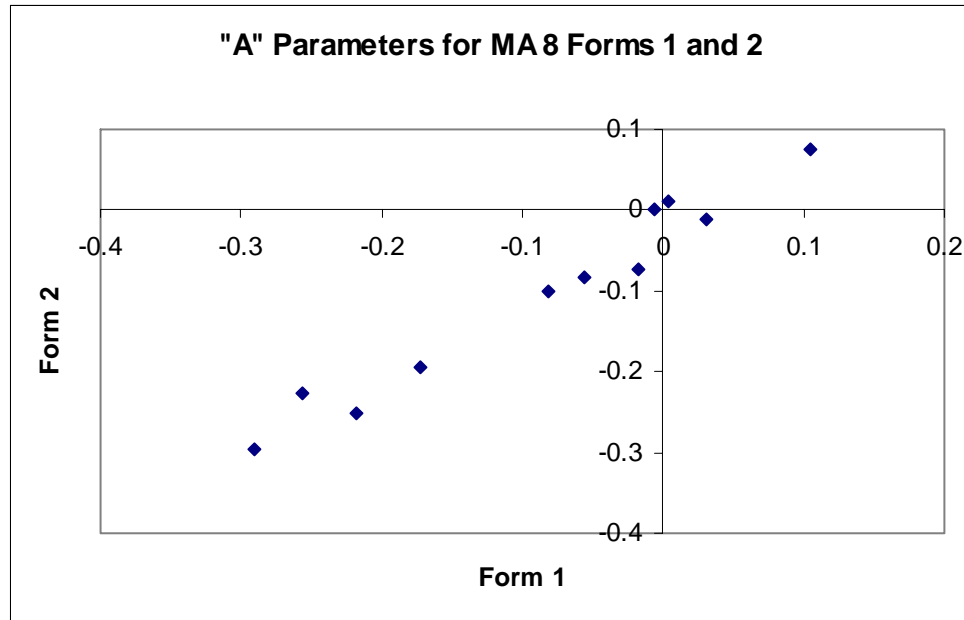
Table 15. Grade 8 Common Item Parameters

MA GRADE 8 Form 1 vs. Form 2 common items

FORM 1			FORM 2				FORM 1	FORM 2
item #	a	b	item #	a	b		LOG(a)	LOG(a)
6	1.2738	0.0524	6	1.1909	0.1224		0.1051	0.0759
7	0.8778	0.1168	7	0.8257	0.0327		-0.0566	-0.0832
13	0.5116	-2.4996	13	0.5055	-2.5126		-0.2911	-0.2963
16	1.0733	-1.5285	16	0.9727	-1.6694		0.0307	-0.0120
20	0.8294	0.8039	20	0.7917	0.8155		-0.0813	-0.1015
26	0.5543	1.4814	26	0.5946	1.4339		-0.2563	-0.2258
27	1.0072	-0.1153	27	1.0243	-0.1385		0.0031	0.0104
29	0.6058	0.5195	29	0.5609	0.4585		-0.2176	-0.2511
36	0.9174	-0.7669	45	1.0091	-0.7443		-0.0375	0.0040
37A	2.4357	-0.4843	39A	2.6175	-0.4997		0.3866	0.4179
37B	1.3011	0.1591	39B	1.3344	0.1411		0.1143	0.1253
38	0.7561	0.5560	40	0.8301	0.6587		-0.1214	-0.0809
42	0.9860	0.1402	36	1.0009	0.2330		-0.0061	0.0004
43	0.5943	-0.5205	38	0.5575	-0.7083		-0.2260	-0.2538
44	0.8832	-0.0590	42	0.8450	0.0610		-0.0540	-0.0732
45	1.5303	0.8510	44	1.3891	0.8078		0.1848	0.1427
51A	2.3980	1.3519	47A	2.4058	1.4395		0.3798	0.3813
51B	1.5650	0.4868	47B	1.6171	0.4499		0.1945	0.2087
52	0.6723	0.3670	52	0.6398	0.3879		-0.1724	-0.1939
54	0.9615	1.0367	53	0.8448	1.2053		-0.0171	-0.0733
56	1.3295	1.6977	68	2.0000	1.8041		0.1237	0.3010
61	1.6555	1.1316	59	1.4313	1.2069		0.2189	0.1557
70A	2.3487	2.3659	70A	2.4367	2.3770		0.3708	0.3868
70B	1.7244	0.7370	70B	1.7885	0.5001		0.2366	0.2525
71	1.6483	0.6407	72	1.6443	0.4807		0.2170	0.2160
75A	2.4738	2.3386	75A	2.3083	2.3272		0.3934	0.3633
75B	1.7168	0.2464	75B	1.7990	0.3627		0.2347	0.2550

Table 16. Correlations of Estimated and Anchor Parameters, MSA Mathematics Year-to-Year Equating

| Grade	Correlation of A parameters	Correlation of B parameters
3	.95	.99
4	.95	.97
5	.94	.99
6	.92	.98
7	.95	.96
8	.94	.98

Figure 7. Estimated and Anchor A Parameter Values, 2005 MSA Grade 3 Mathematics
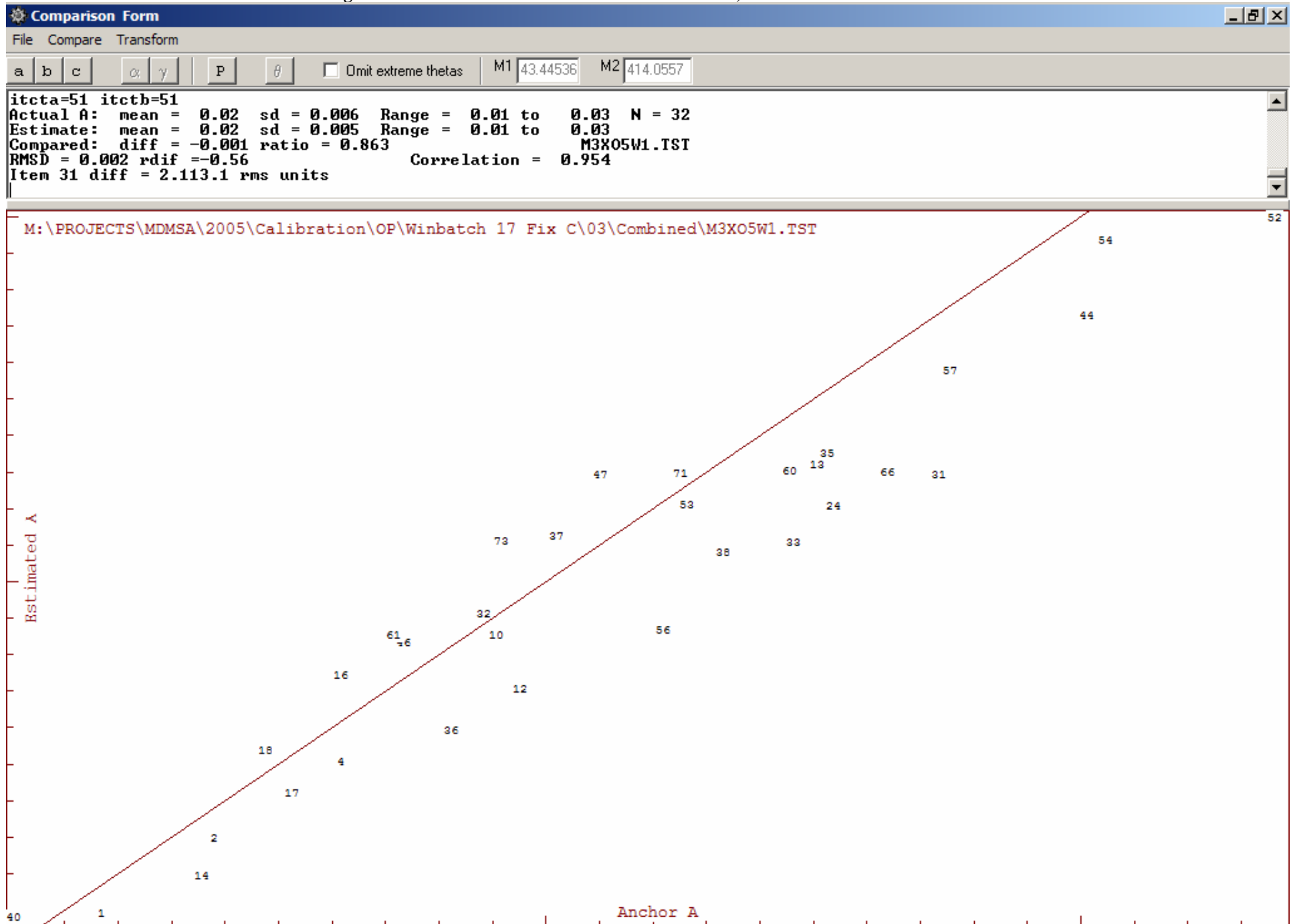
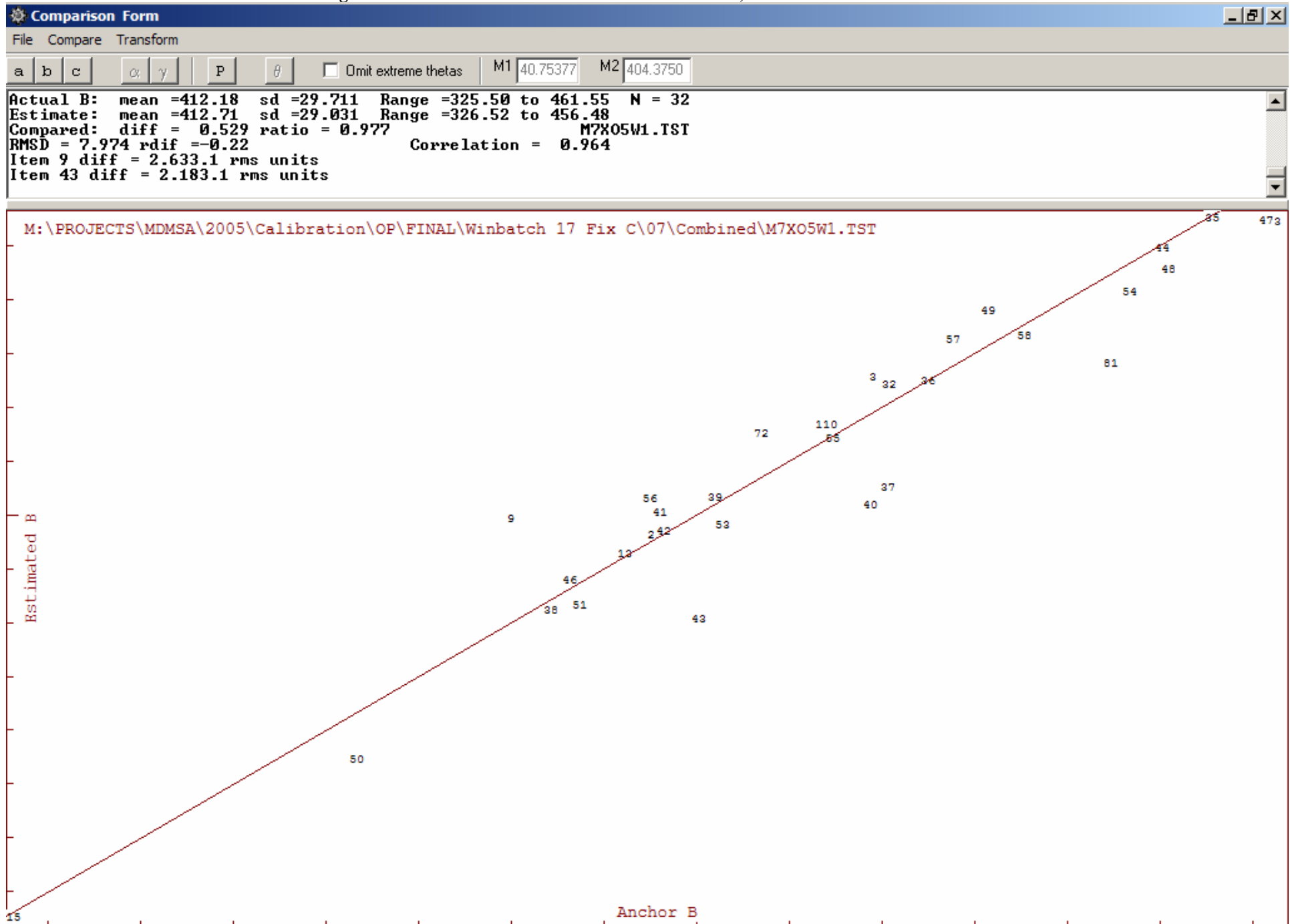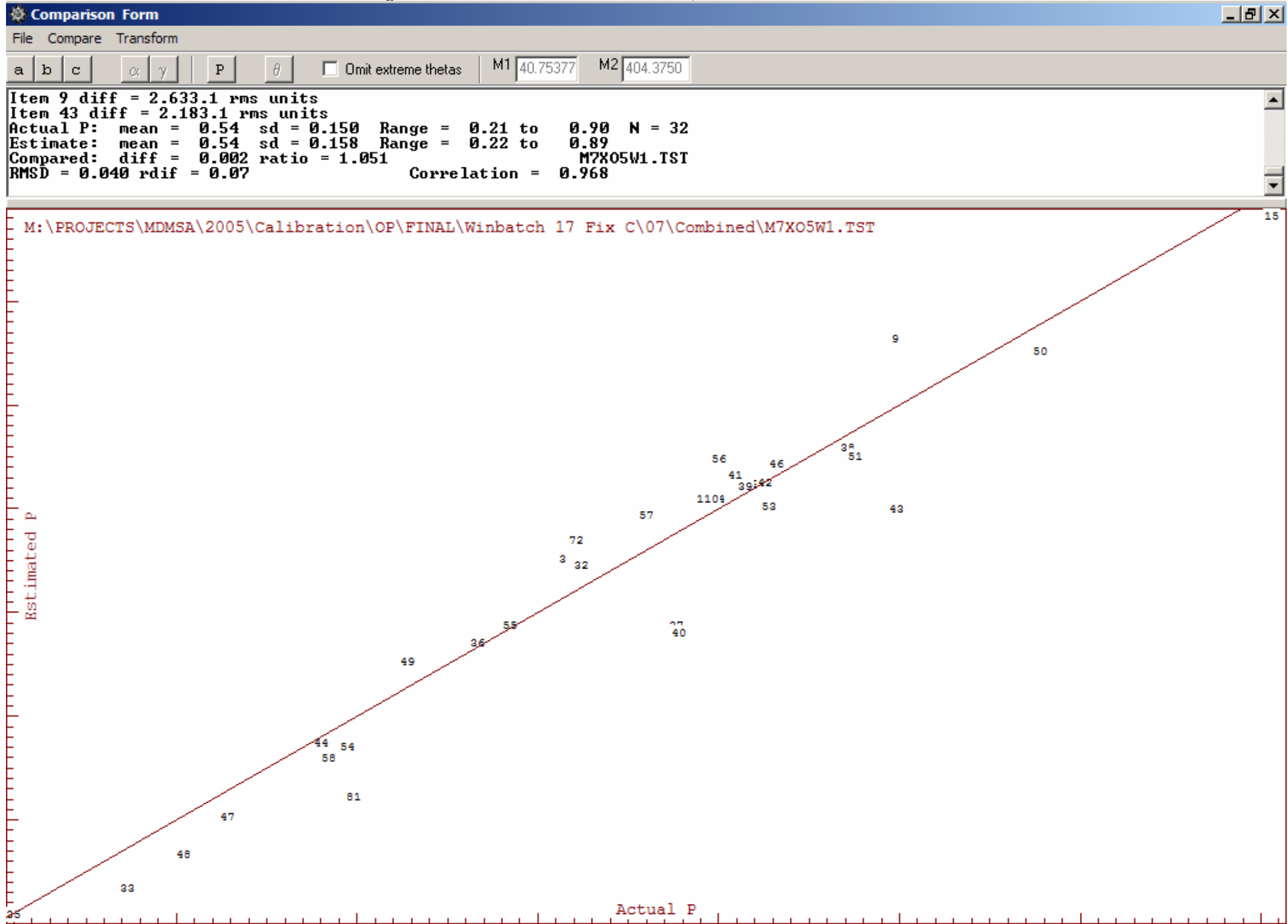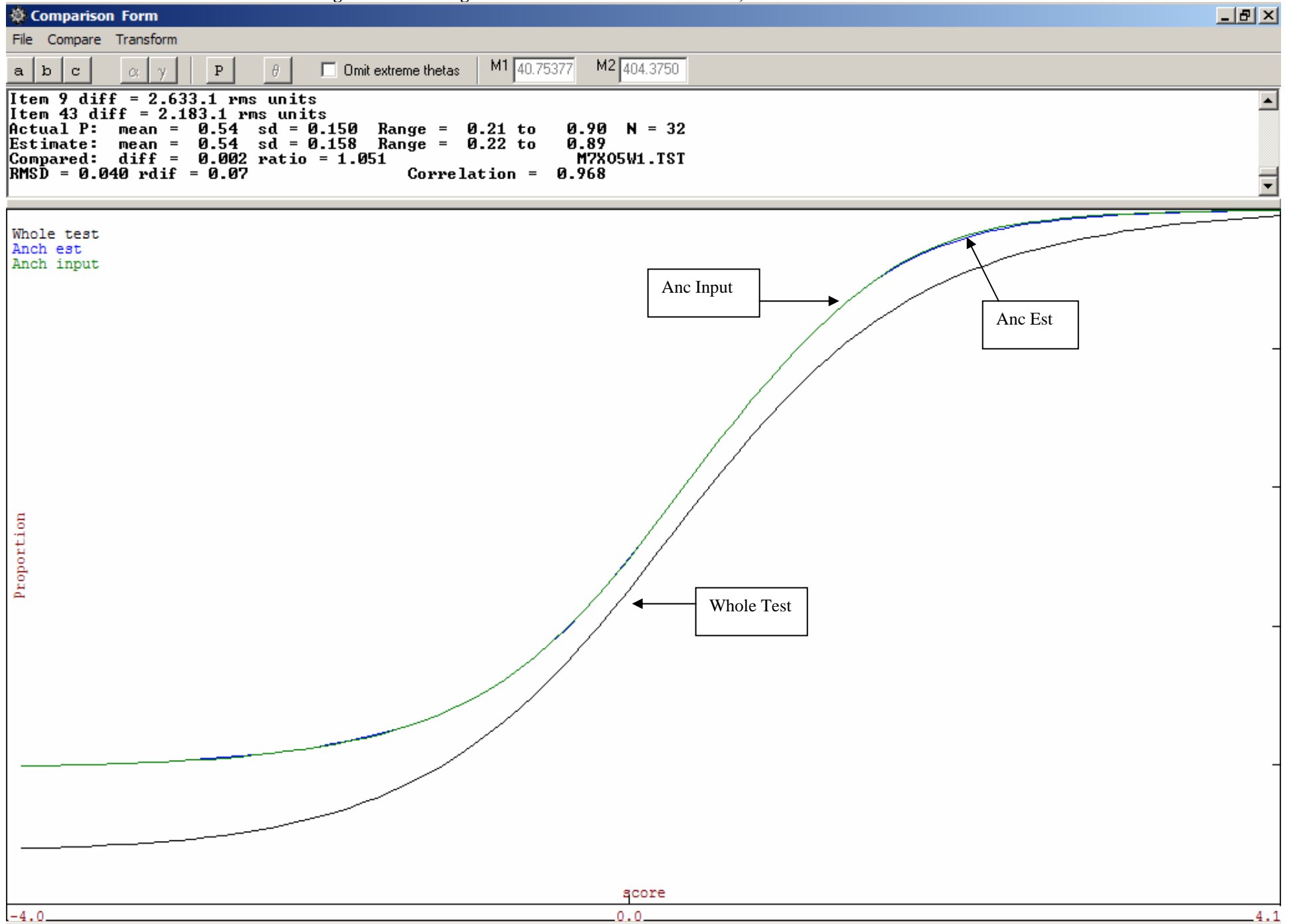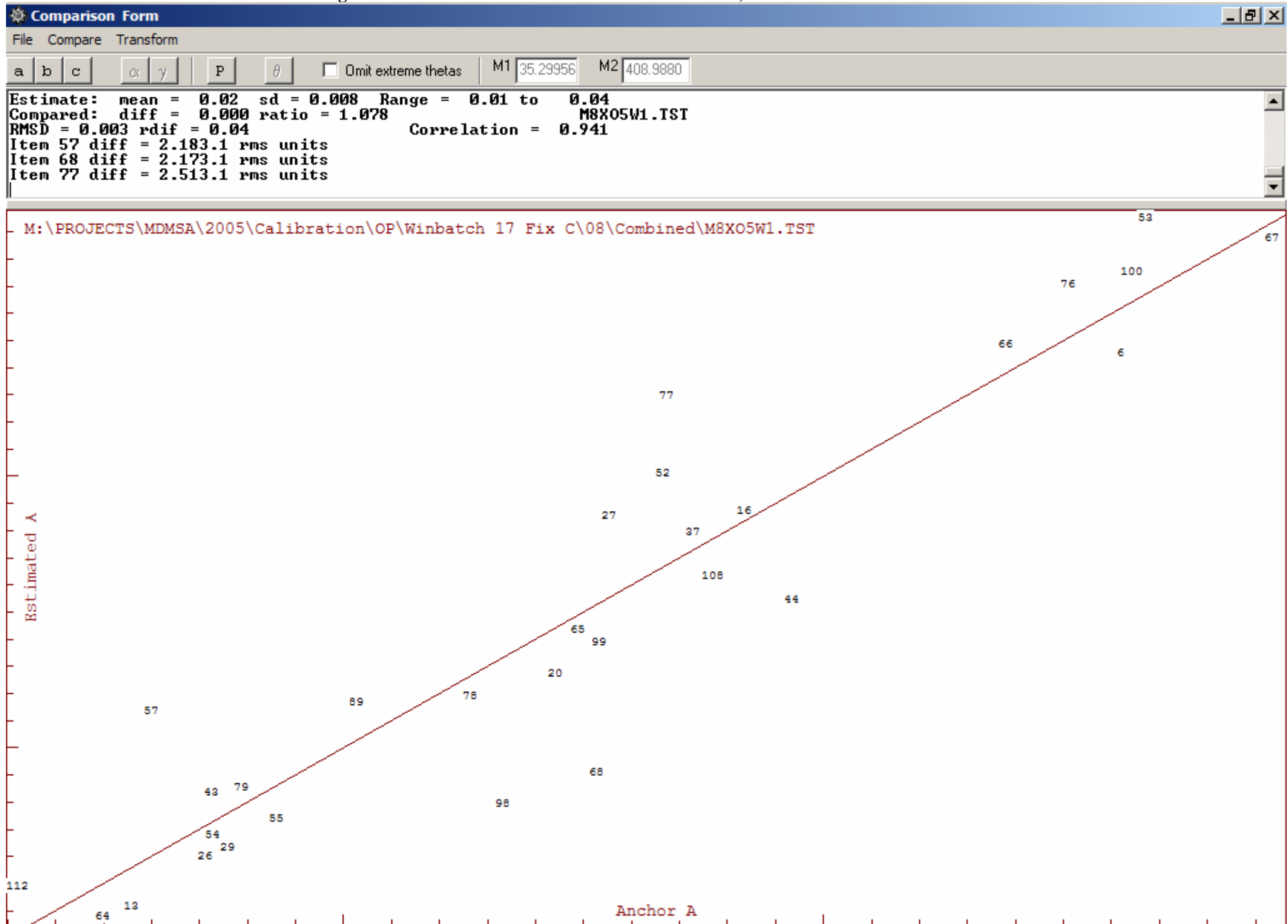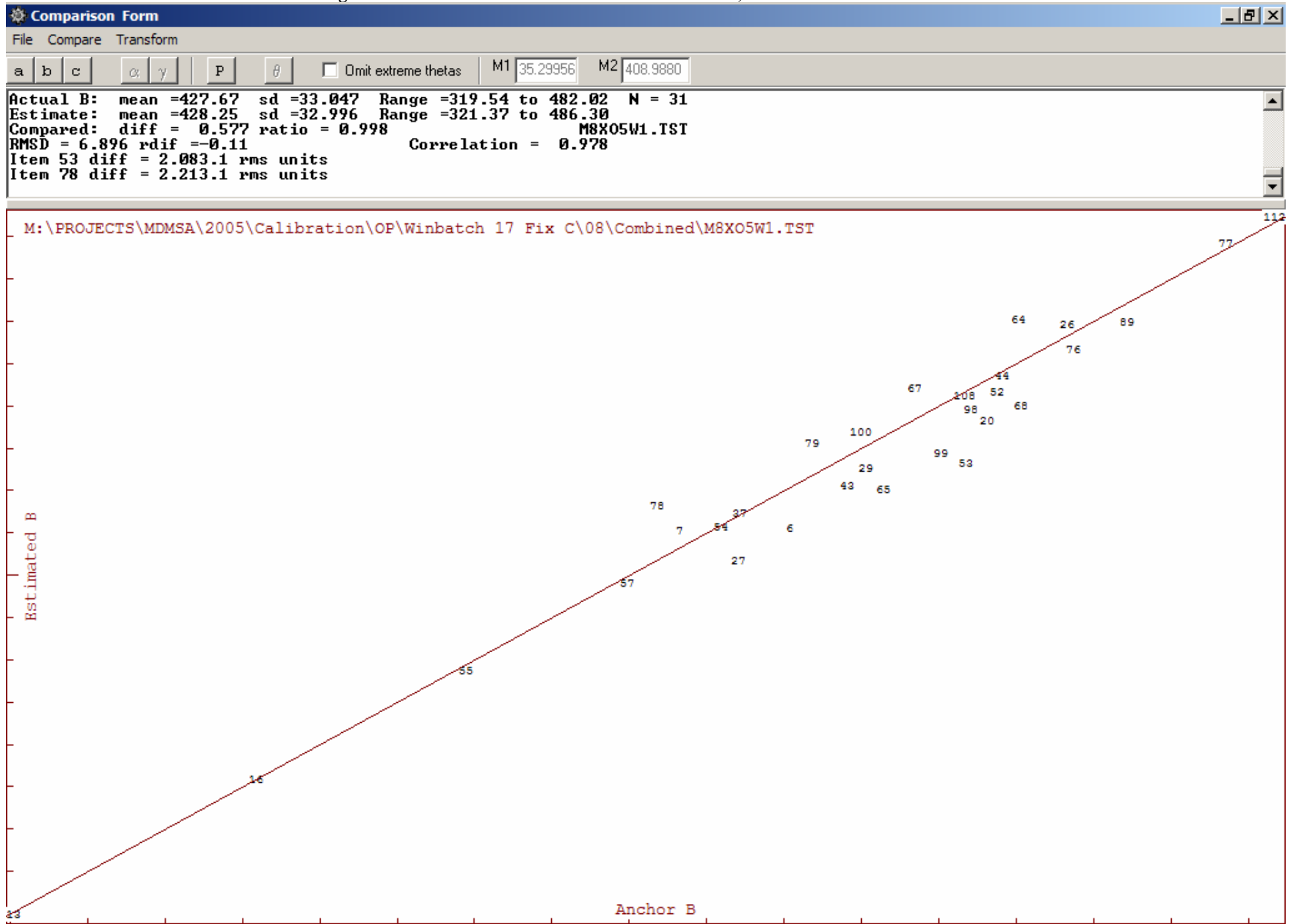**Figure 8. Estimated and Anchor B Parameter Values, 2005 MSA Grade 3 Mathematics**
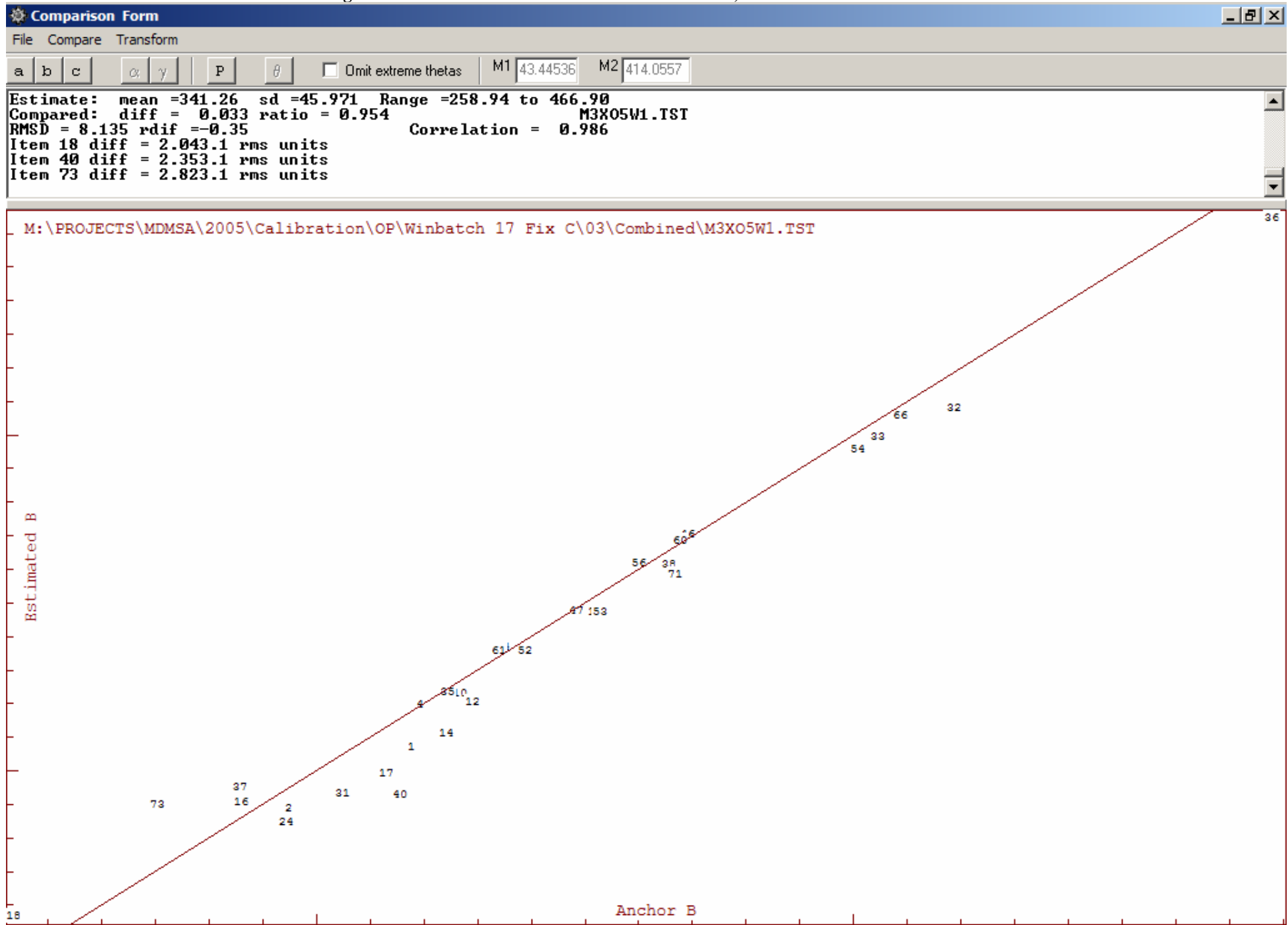
Figure 9. Estimated and Actual P Values, 2005 MSA Grade 3 Mathematics
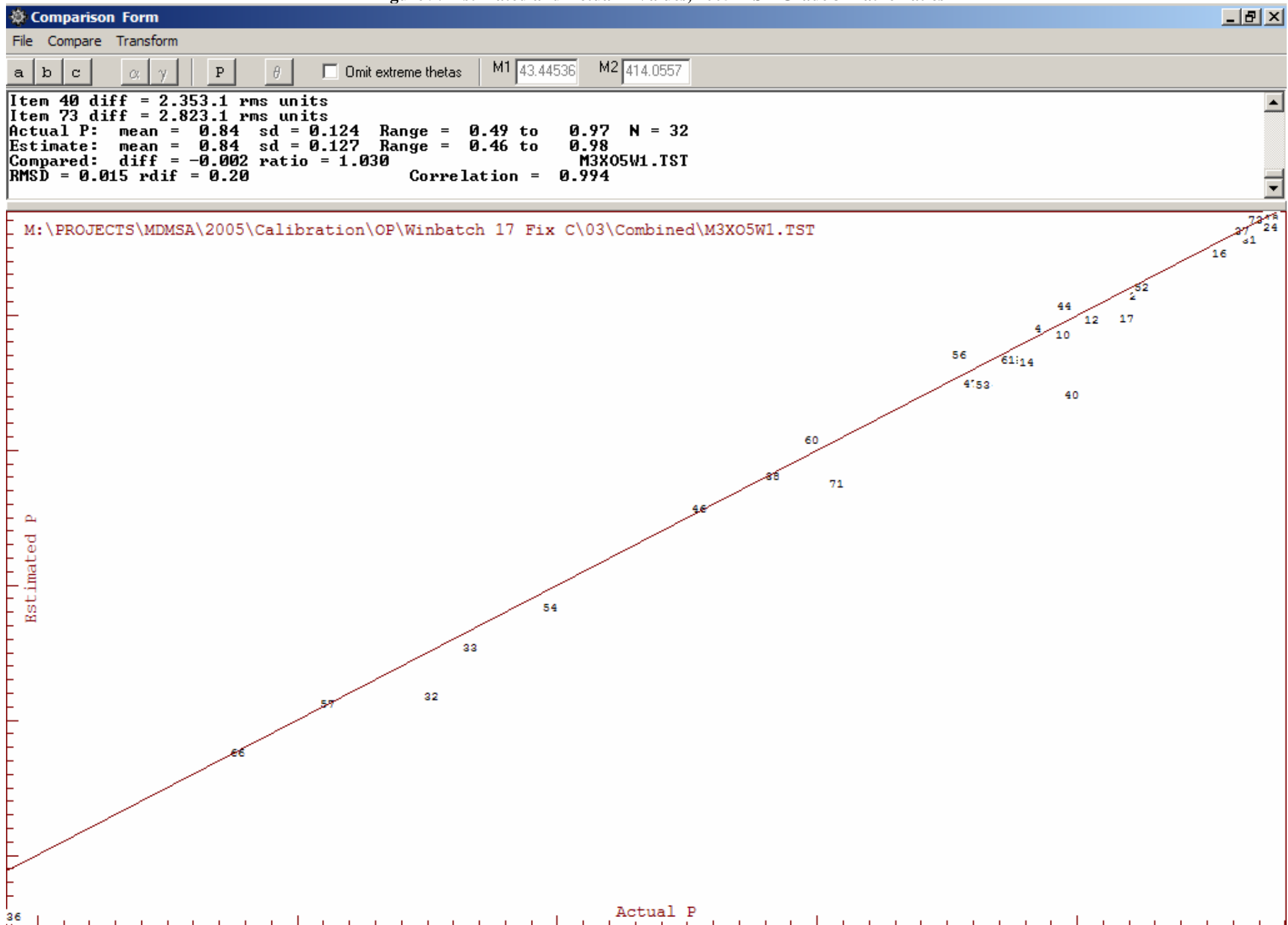
Figure 10. Stocking & Lord Test Characteristic Curves, 2005 MSA Grade 3 Mathematics
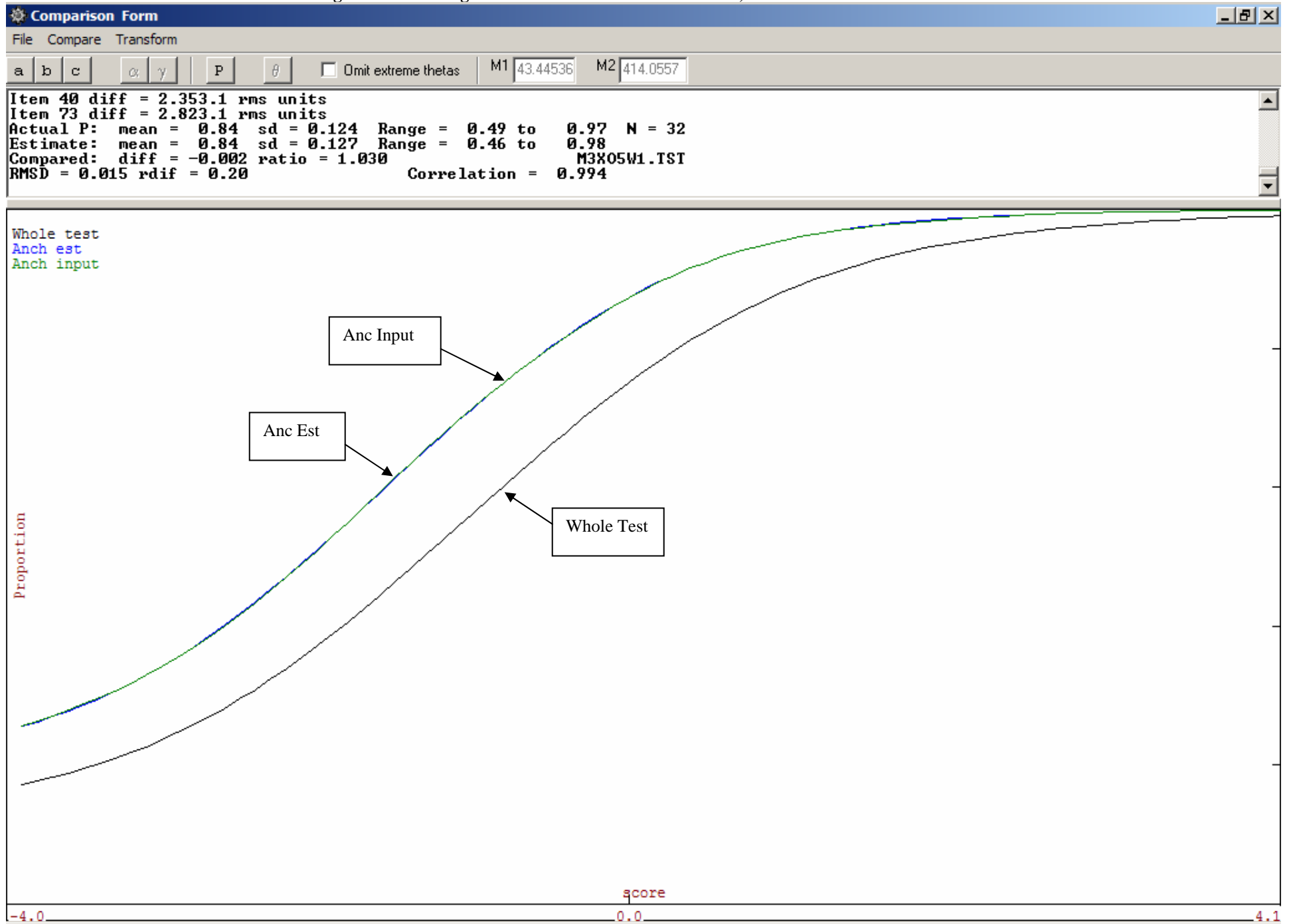
Figure 11. Estimated and Anchor A Parameter Values, 2005 MSA Grade 4 Mathematics
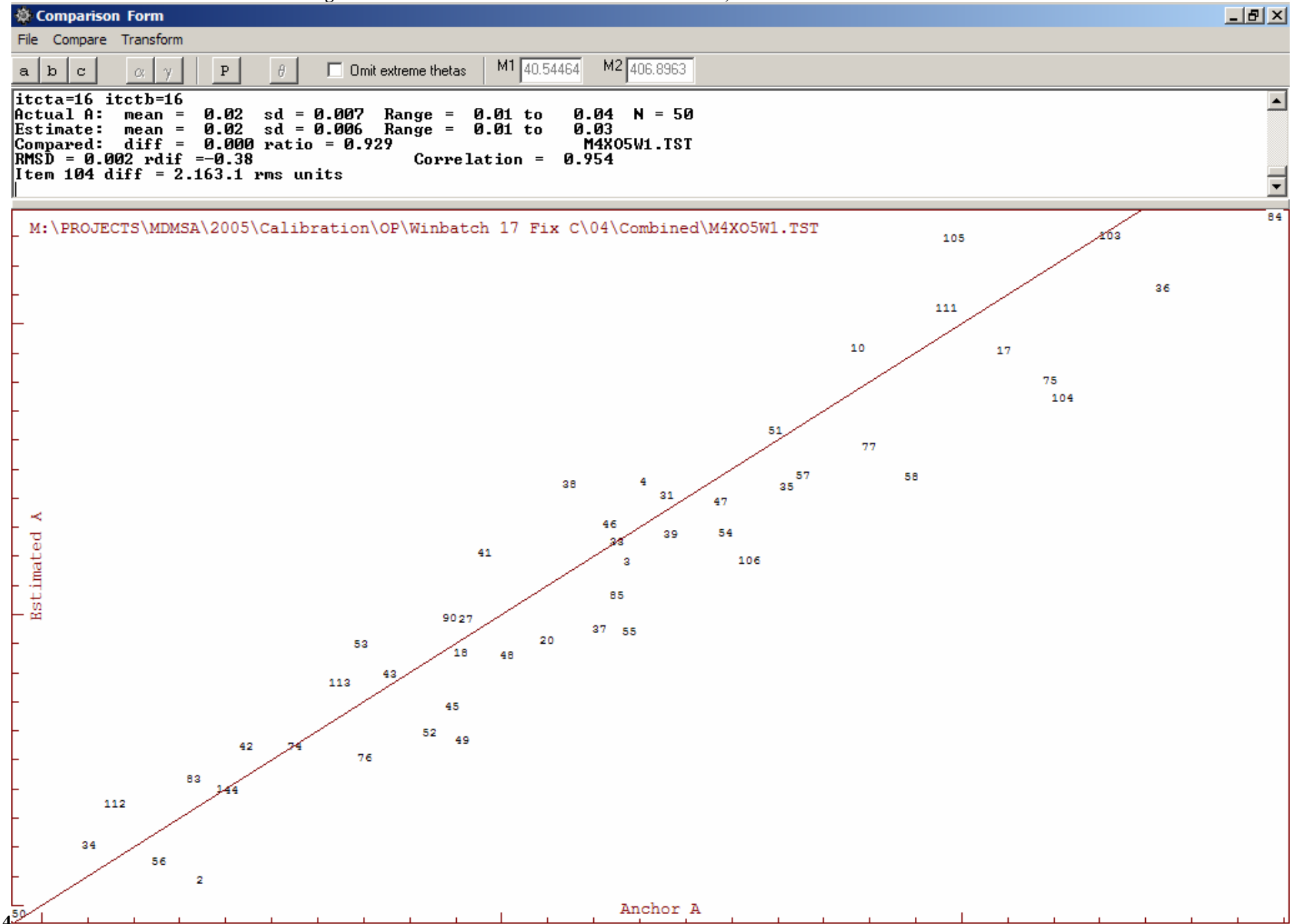
Figure 12. Estimated and Anchor B Parameter Values, 2005 MSA Grade 4 Mathematics
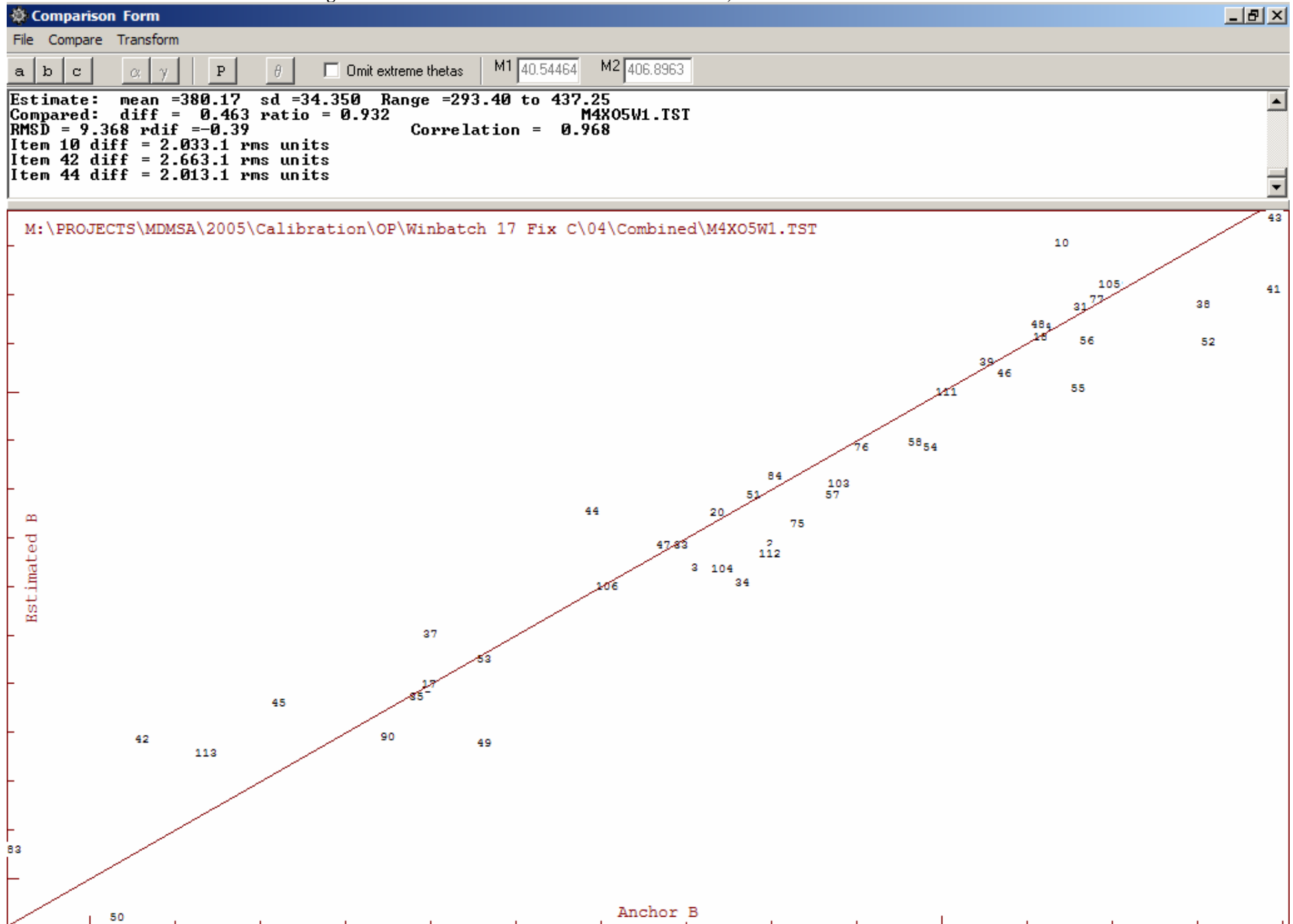
Figure 13. Estimated and Actual P Values, 2005 MSA Grade 4 Mathematics
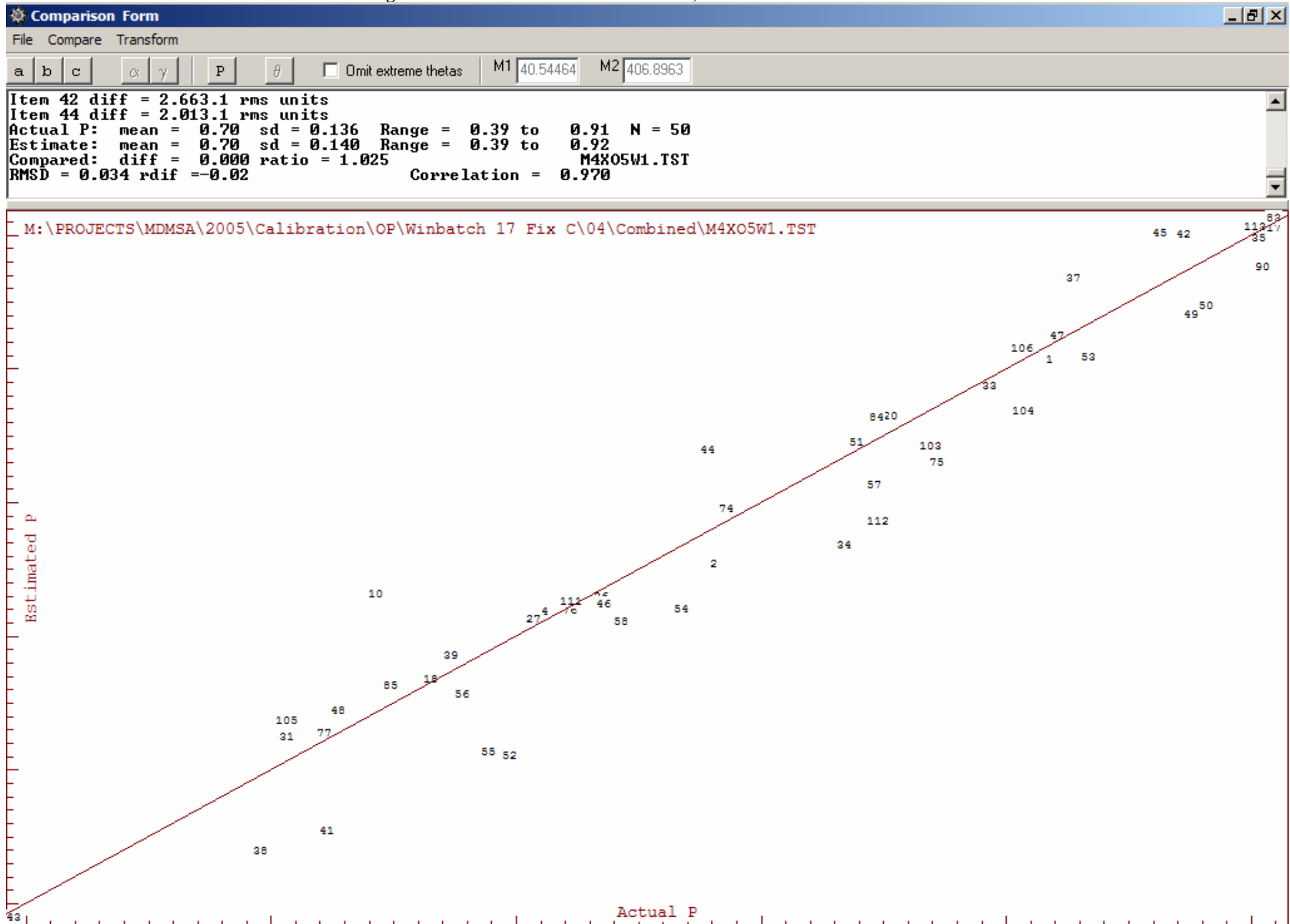
Figure 14. Stocking & Lord Test Characteristic Curves, 2005 MSA Grade 4 Mathematics
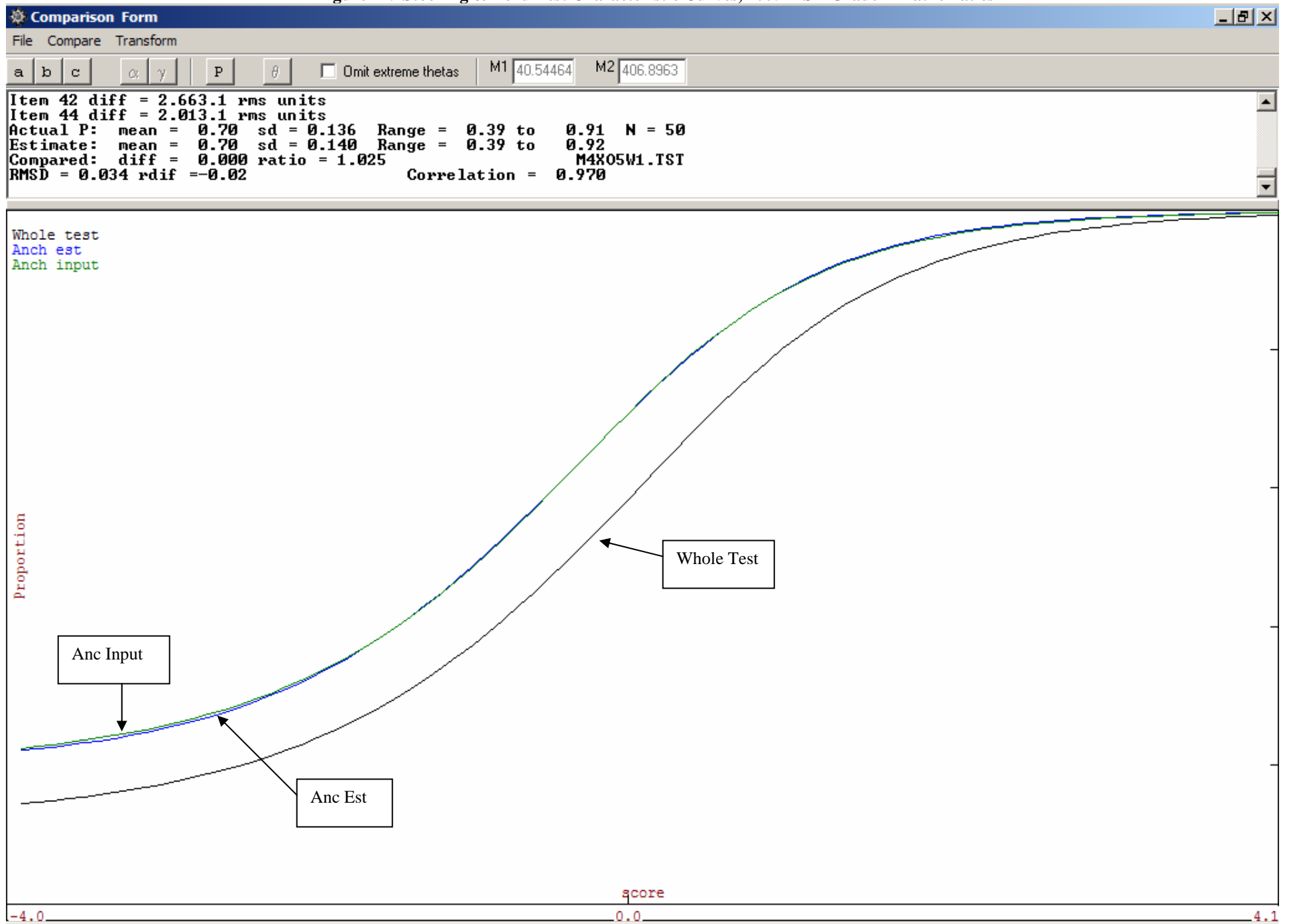
Figure 15. Estimated and Anchor A Parameter Values, 2005 MSA Grade 5 Mathematics
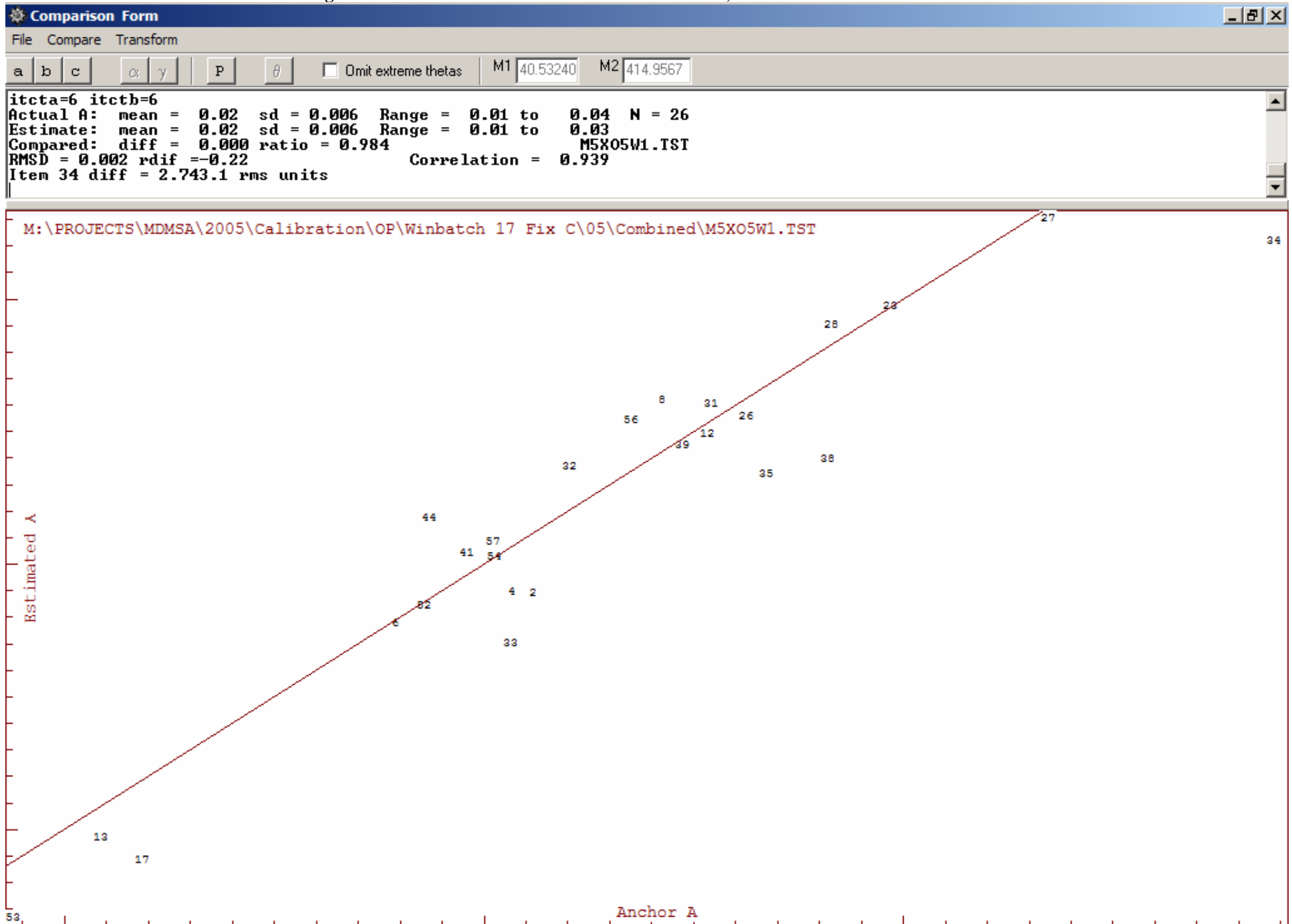
Figure 16. Estimated and Anchor B Parameter Values, 2005 MSA Grade 5 Mathematics
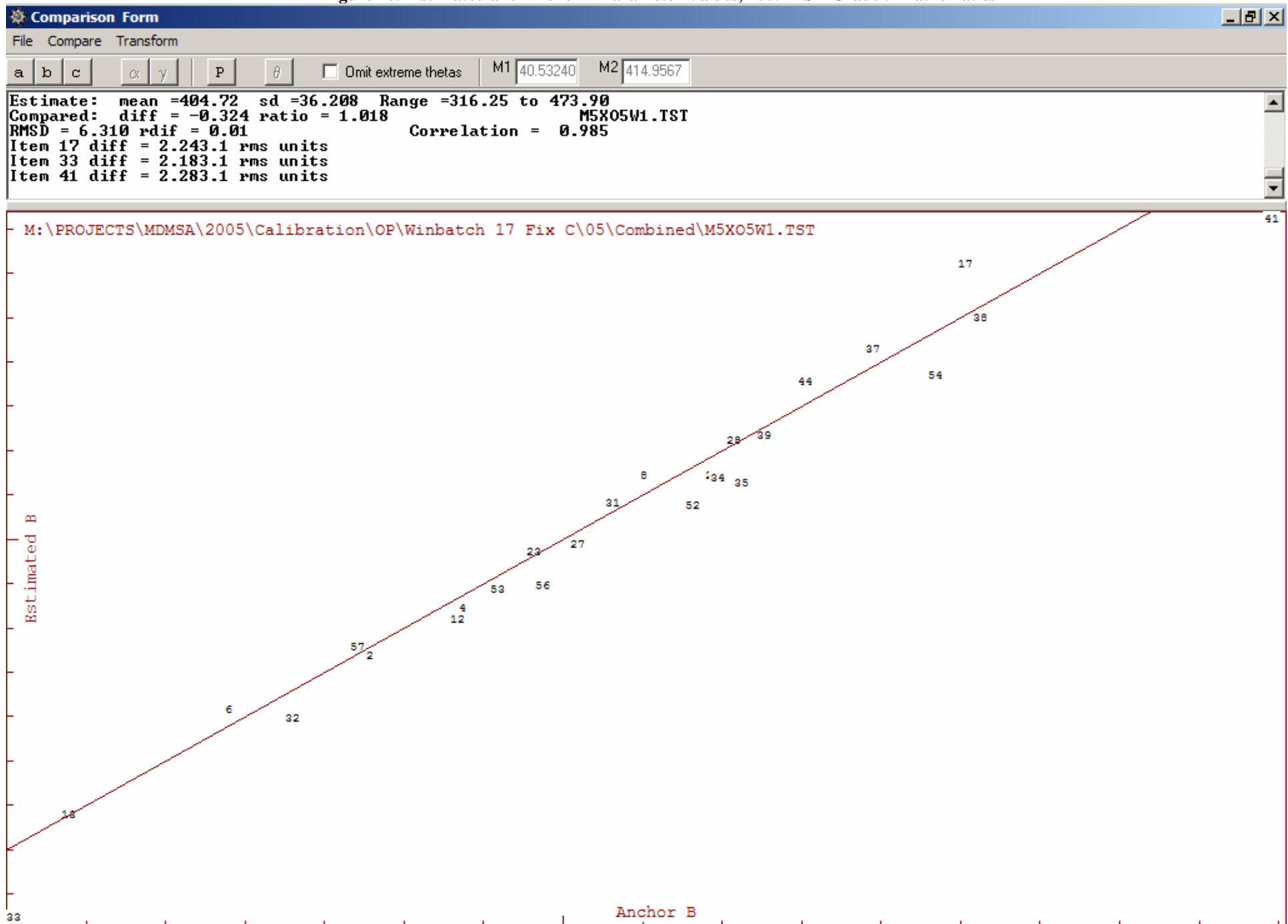
Figure 17. Estimated and Actual P Values, 2005 MSA Grade 5 Mathematics
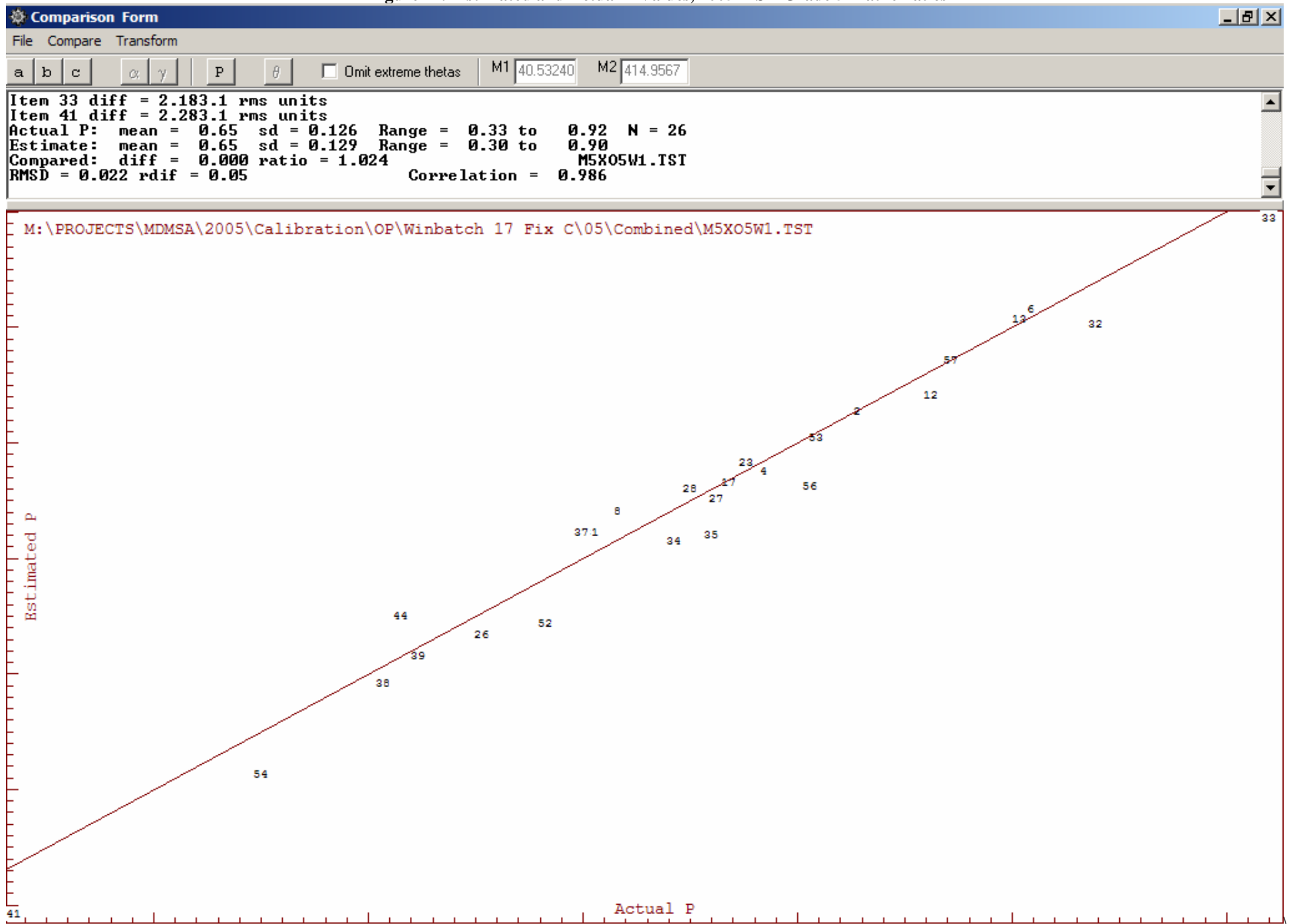
Figure 18. Stocking & Lord Test Characteristic Curves, 2005 MSA Grade 5 Mathematics
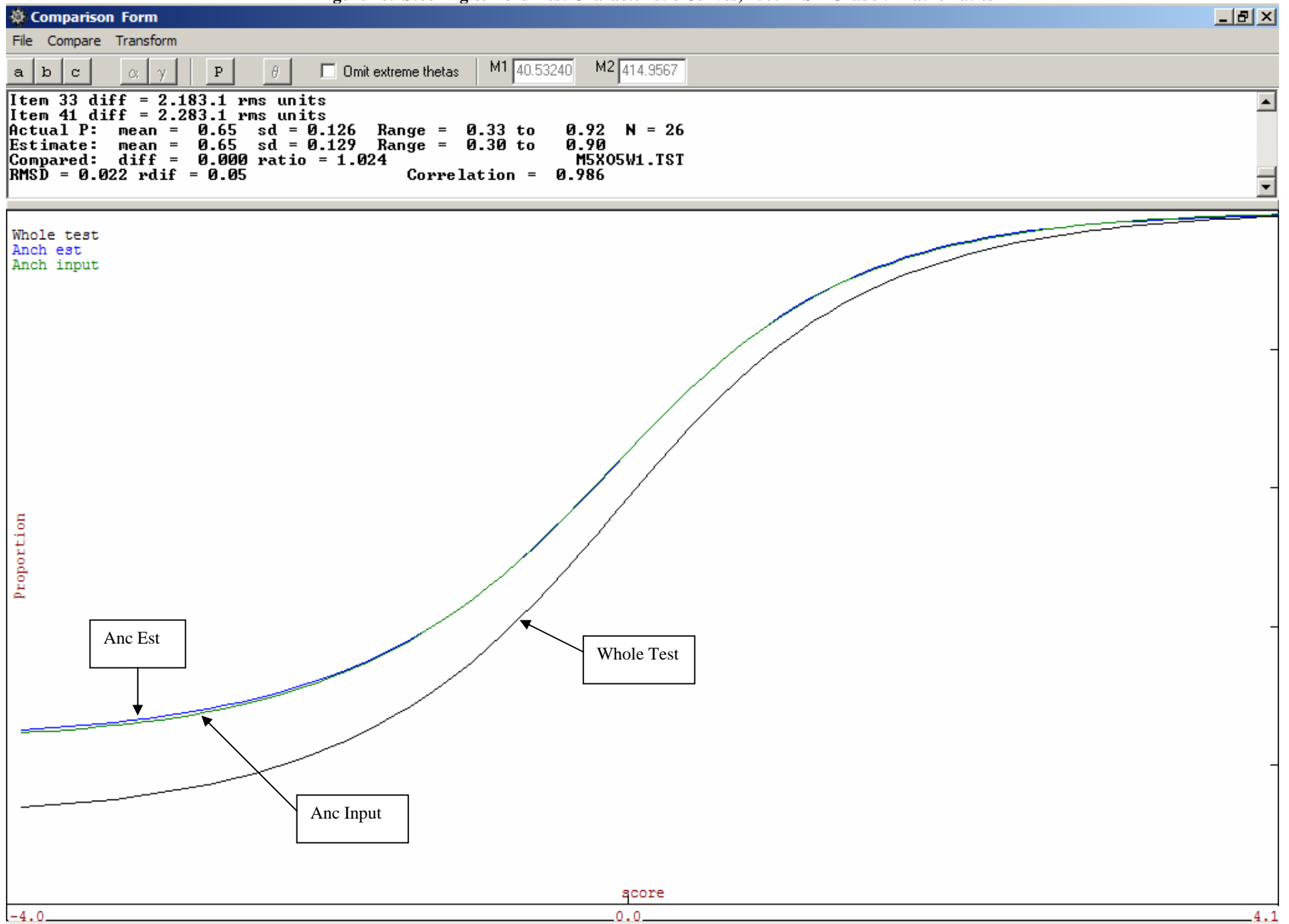
Figure 19. Estimated and Anchor A Parameter Values, 2005 MSA Grade 6 Mathematics
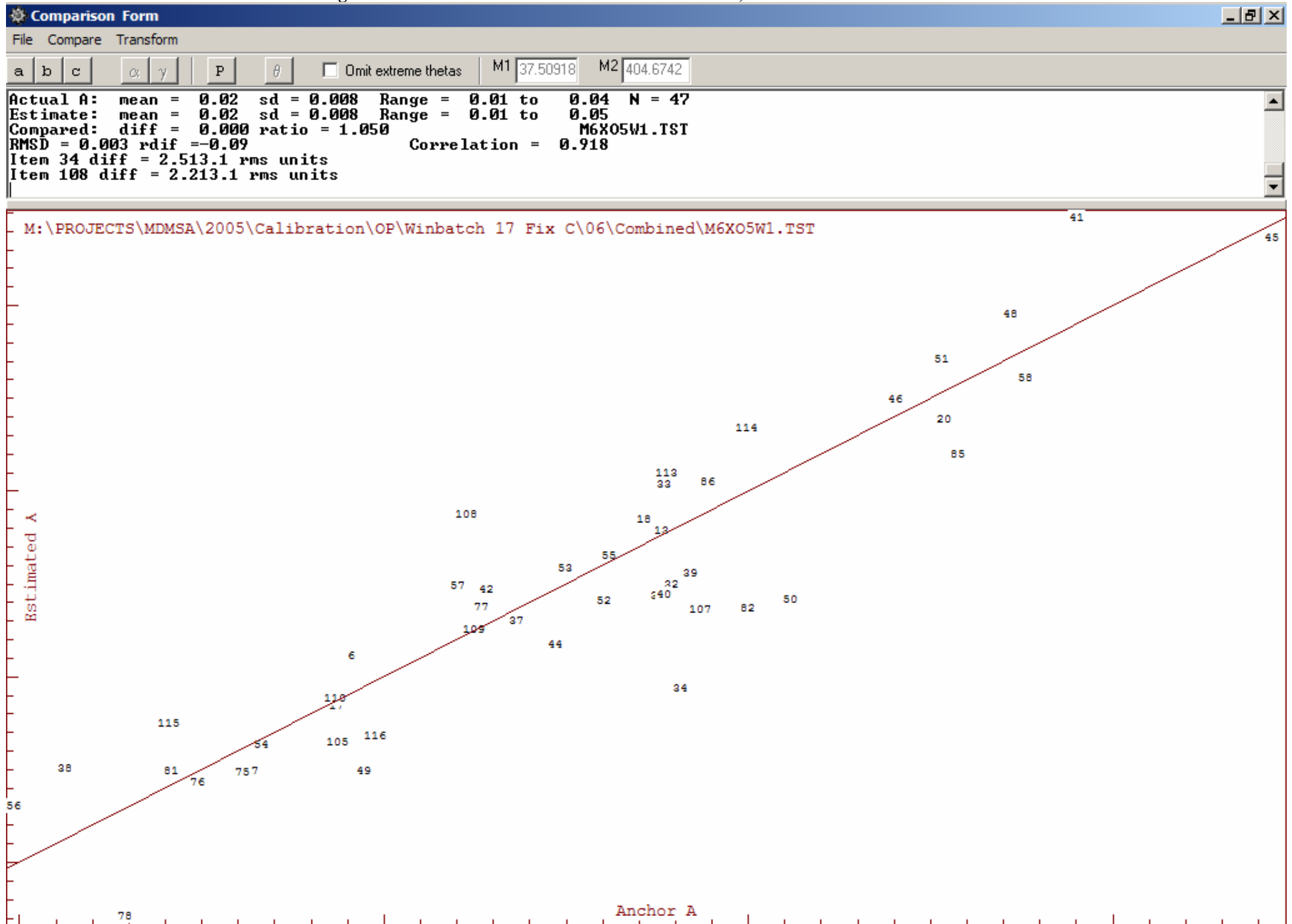
Figure 20. Estimated and Anchor B Parameter Values, 2005 MSA Grade 6 Mathematics
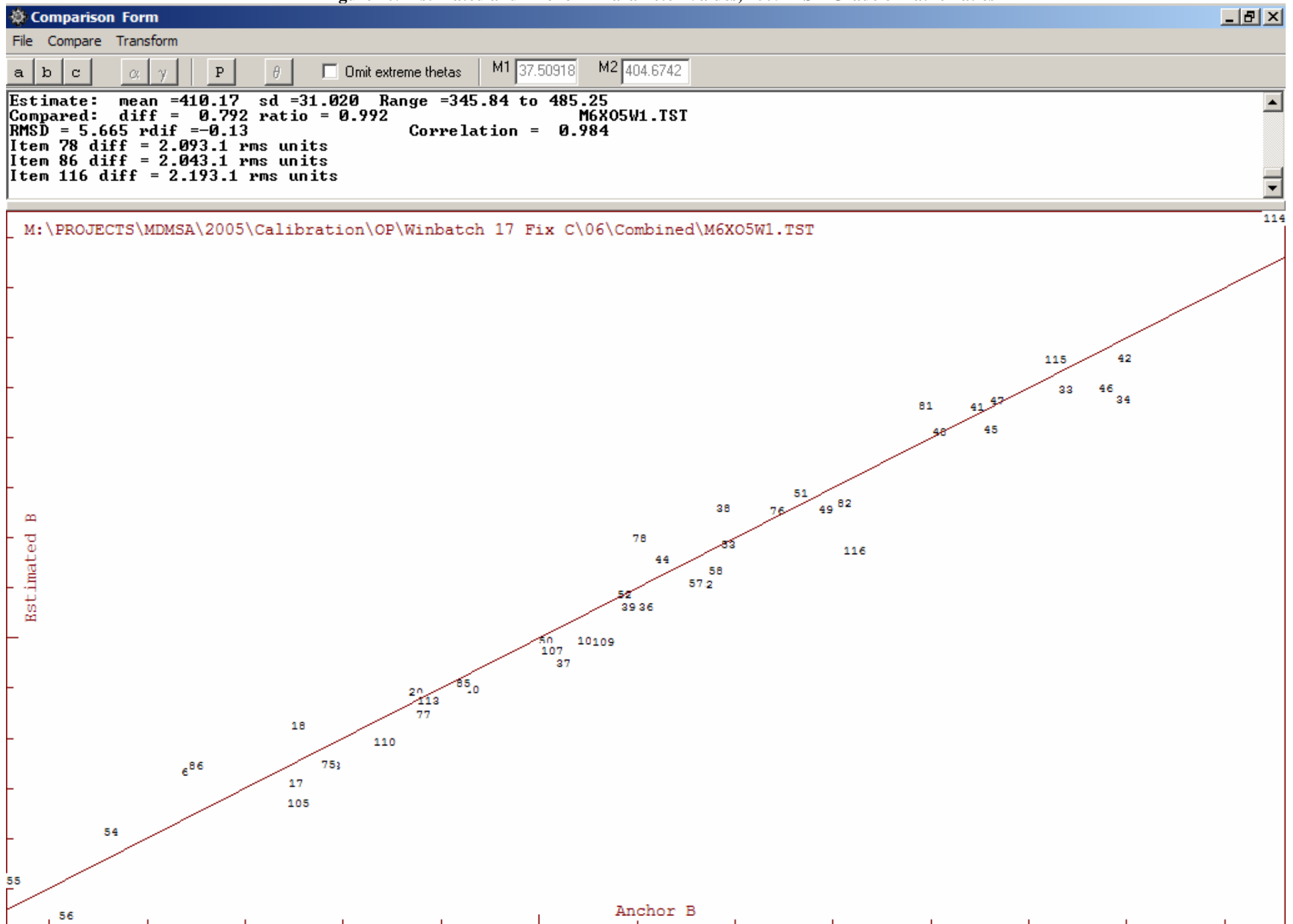
Figure 21. Estimated and Actual P Values, 2005 MSA Grade 6 Mathematics
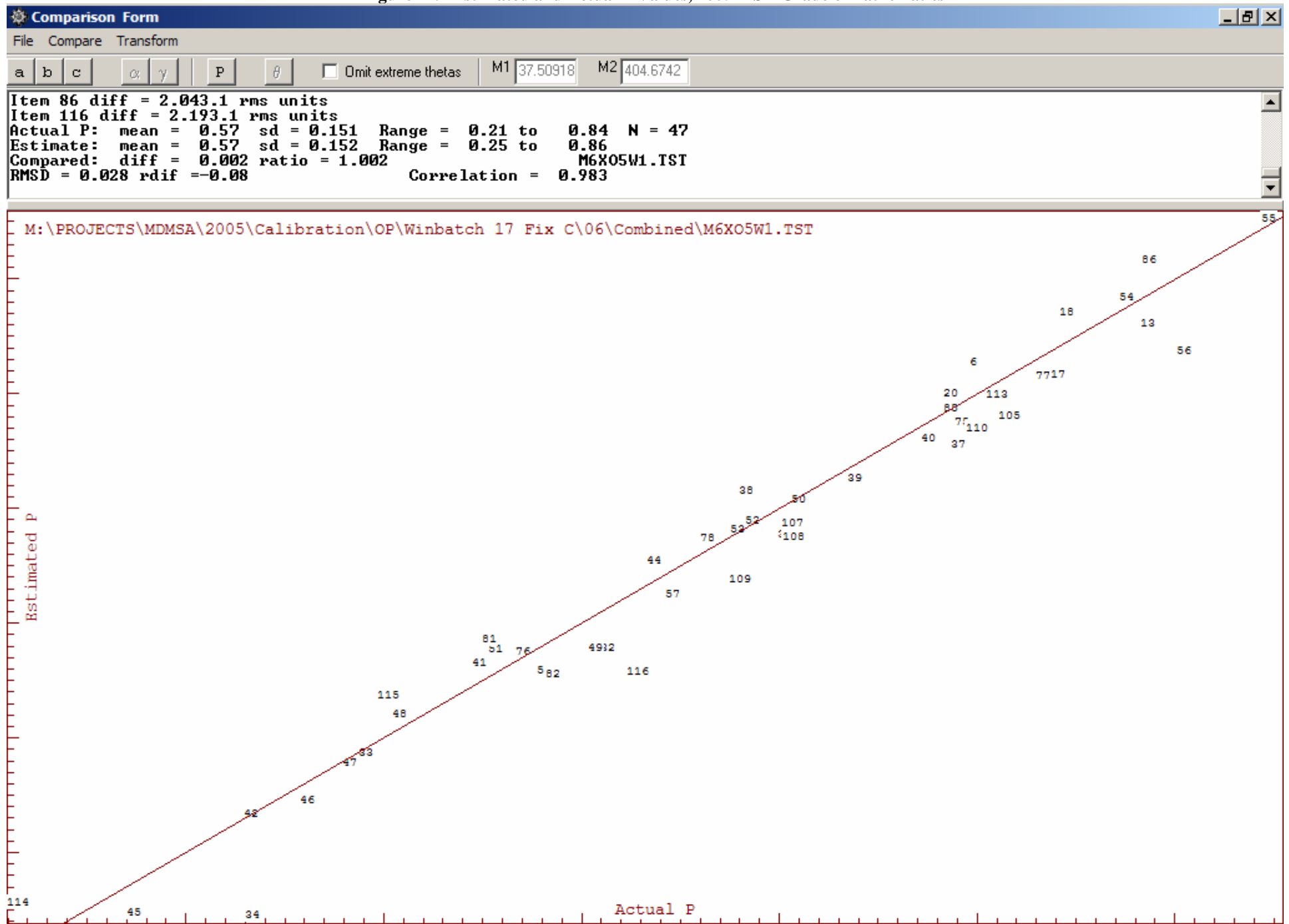
Figure 22. Stocking & Lord Test Characteristic Curves, 2005 MSA Grade 6 Mathematics
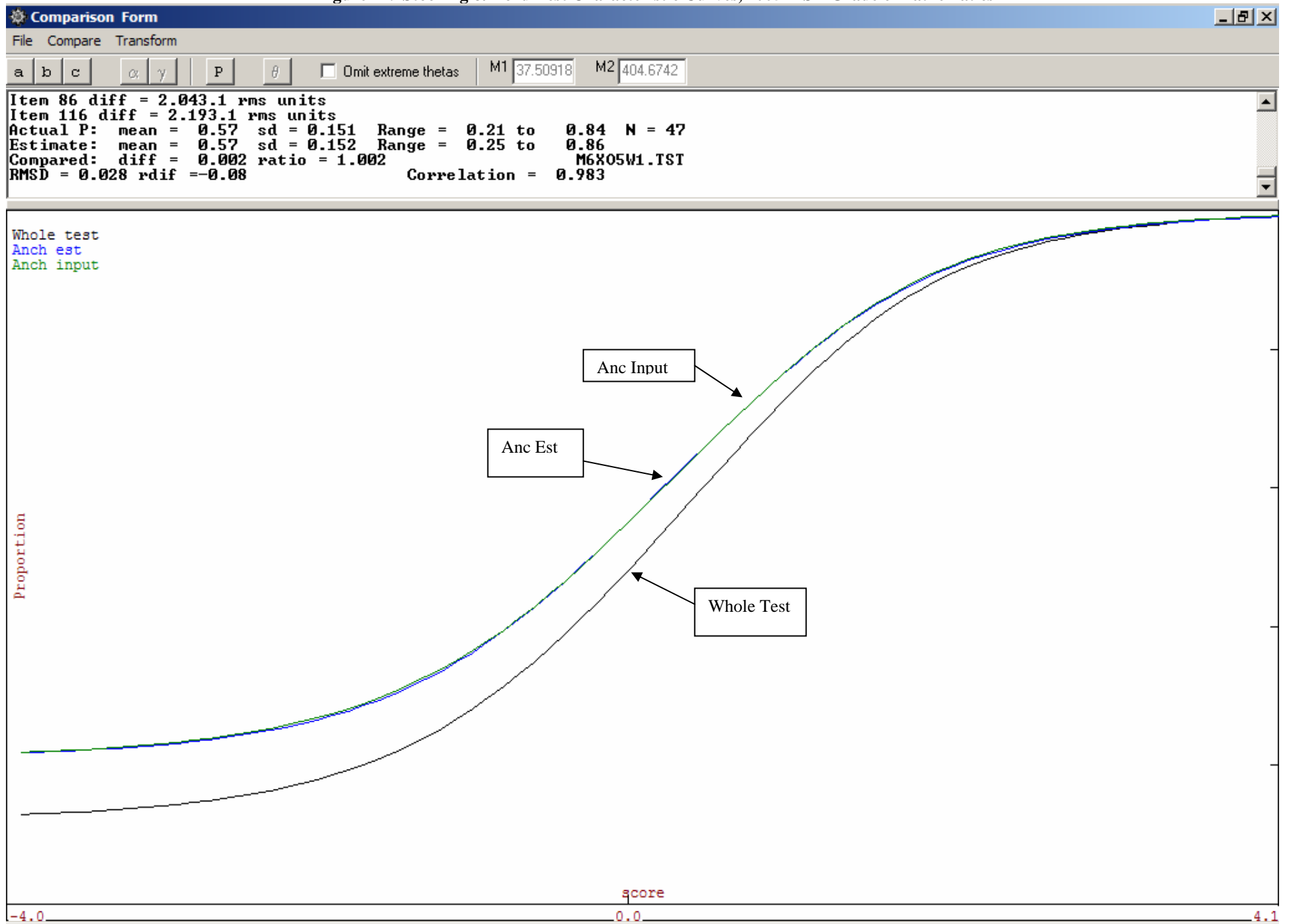
Figure 23. Estimated and Anchor A Parameter Values, 2005 MSA Grade 7 Mathematics
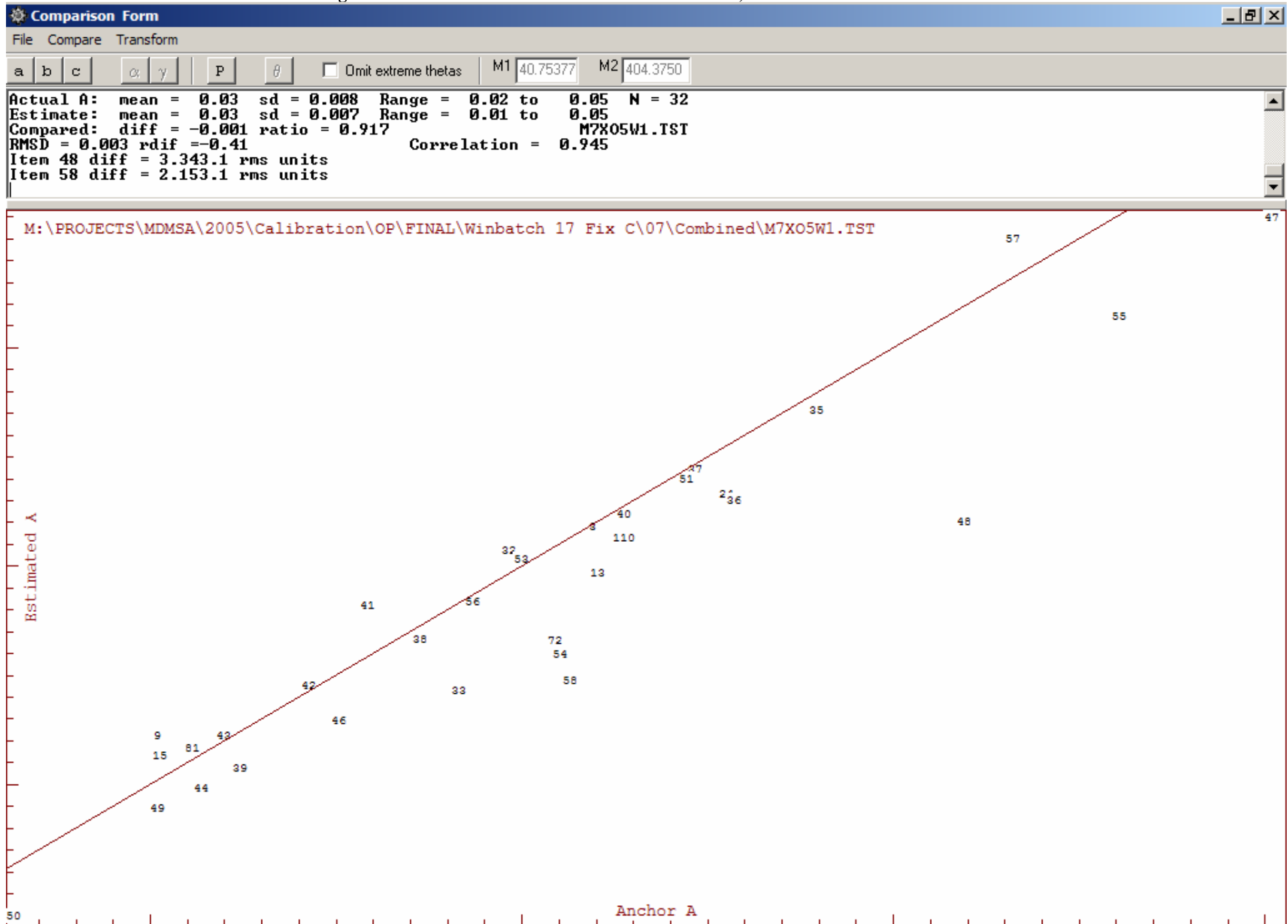
Figure 24. Estimated and Anchor B Parameter Values, 2005 MSA Grade 7 Mathematics

Figure 25. Estimated and Actual P Values, 2005 MSA Grade 7 Mathematics

Figure 26. Stocking & Lord Test Characteristic Curves, 2005 MSA Grade 7 Mathematics

Figure 27. Estimated and Anchor A Parameter Values, 2005 MSA Grade 8 Mathematics

Figure 28. Estimated and Anchor B Parameter Values, 2005 MSA Grade 8 Mathematics

Figure 29. Estimated and Actual P Values, 2005 MSA Grade 8 Mathematics
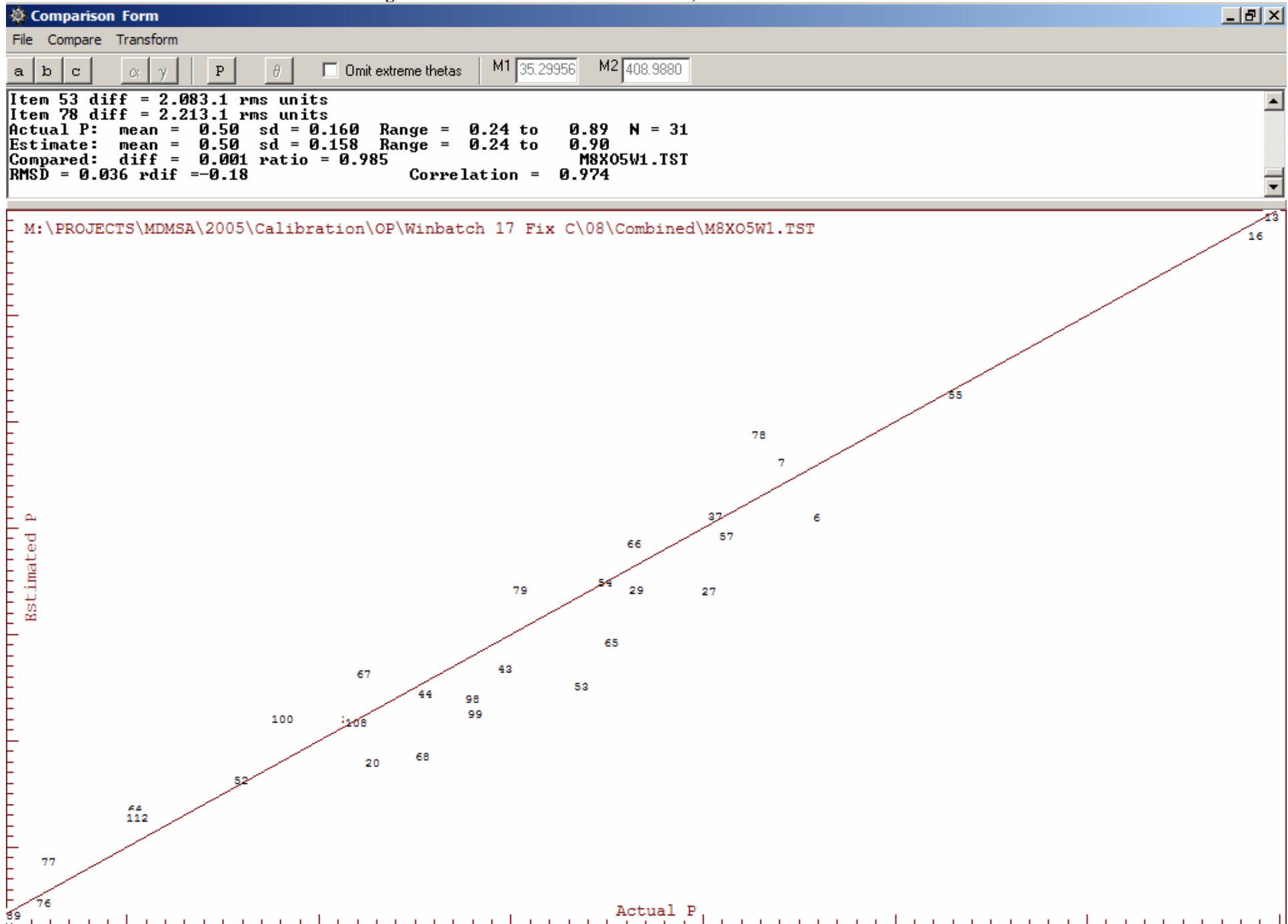
Figure 30. Stocking & Lord Test Characteristic Curves, 2005 MSA Grade 8 Mathematics
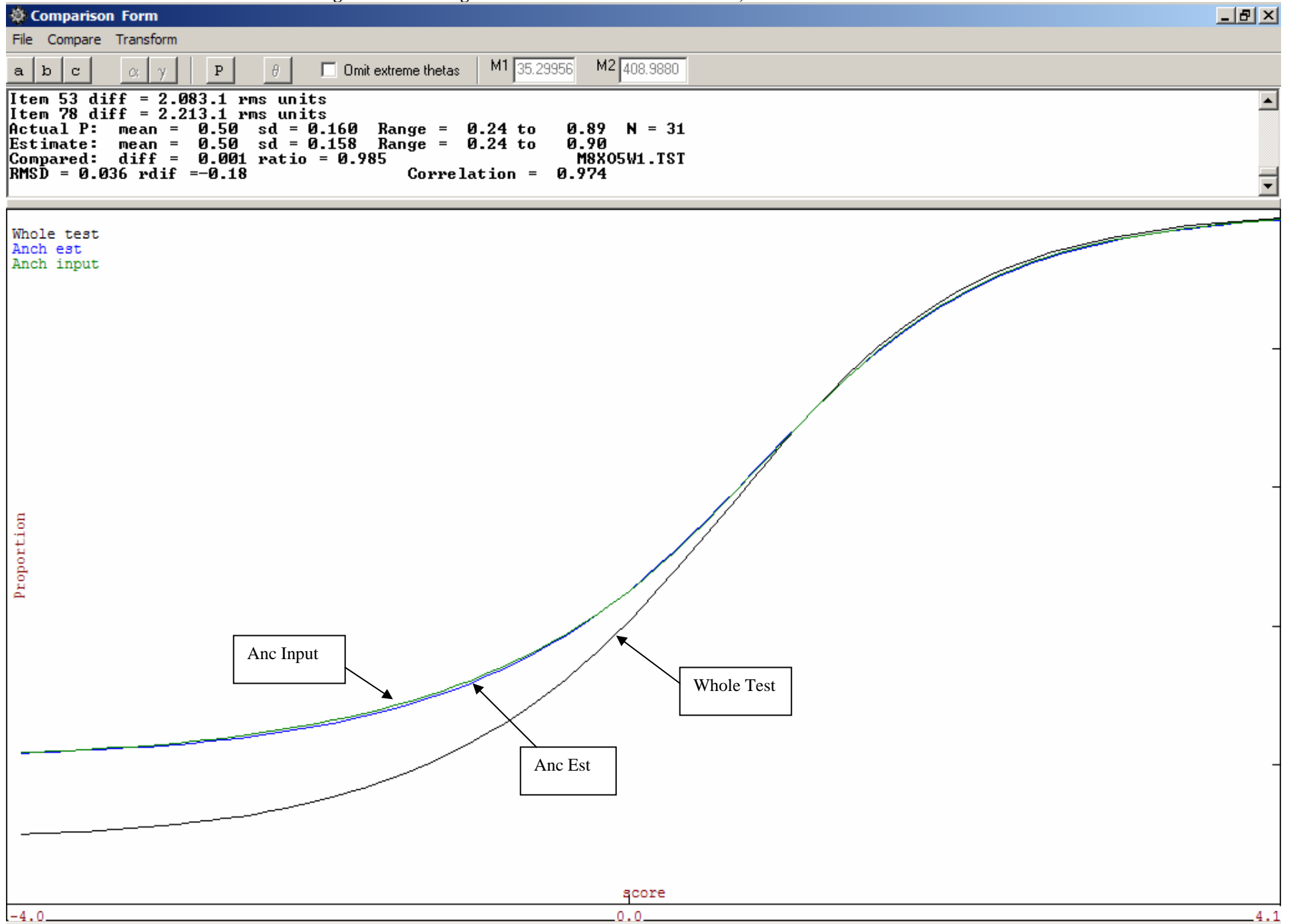
Figure 31. Grade 3 TCC & SE Plot, Form 1 and Form 2
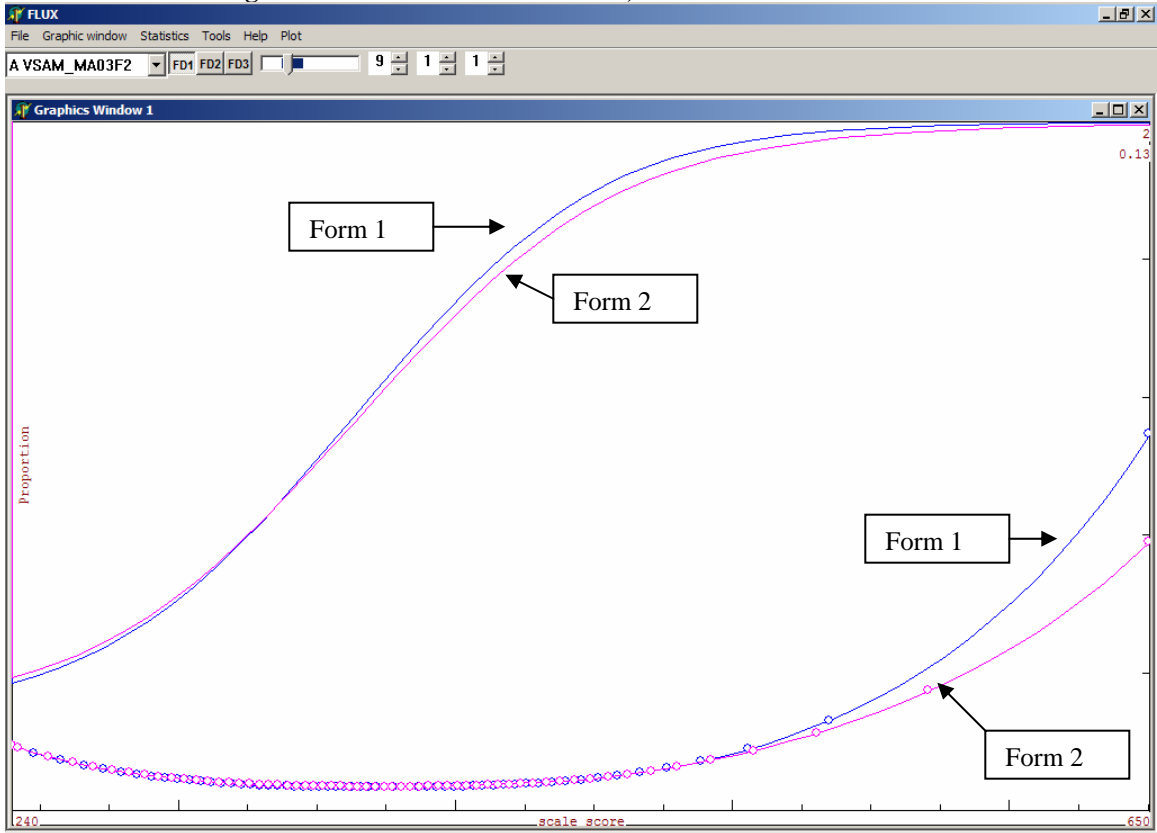
Figure 32.   Grade 4 TCC & SE Plot, Form 1 and Form 2
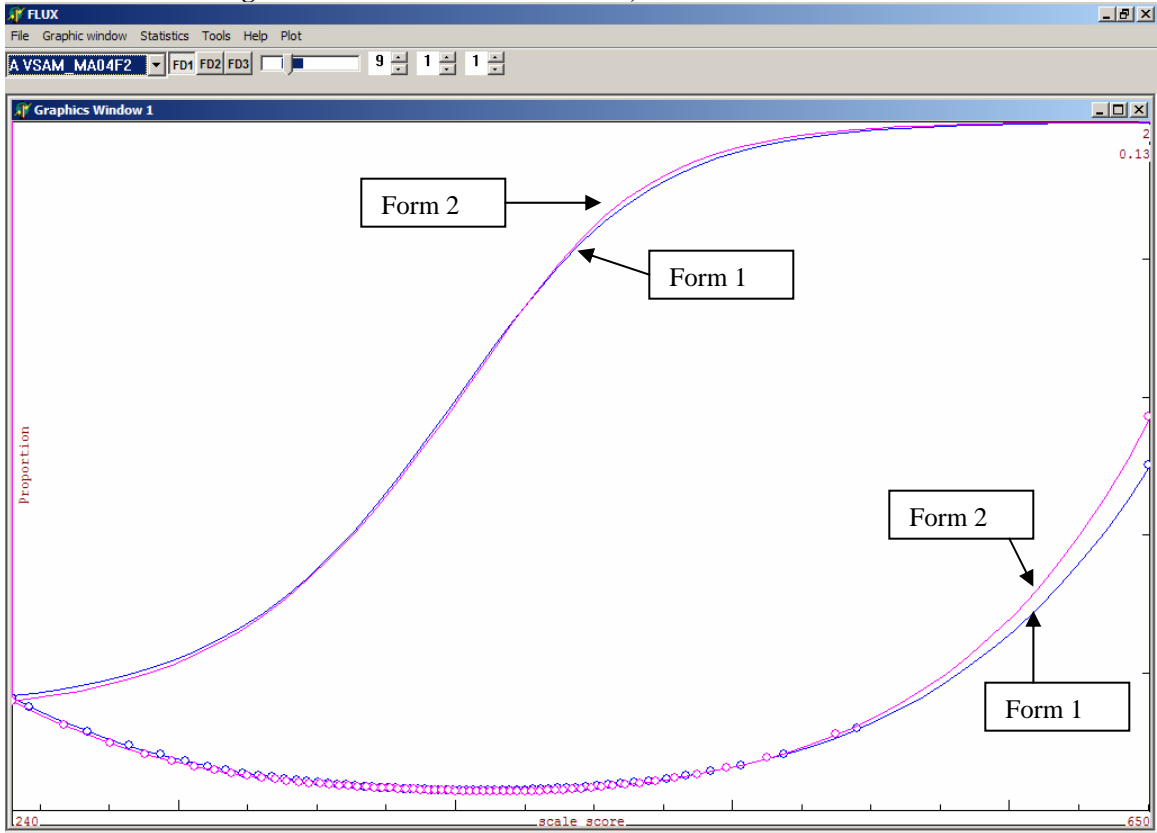
Figure 33.   Grade 5 TCC & SE Plot, Form 1 and Form 2
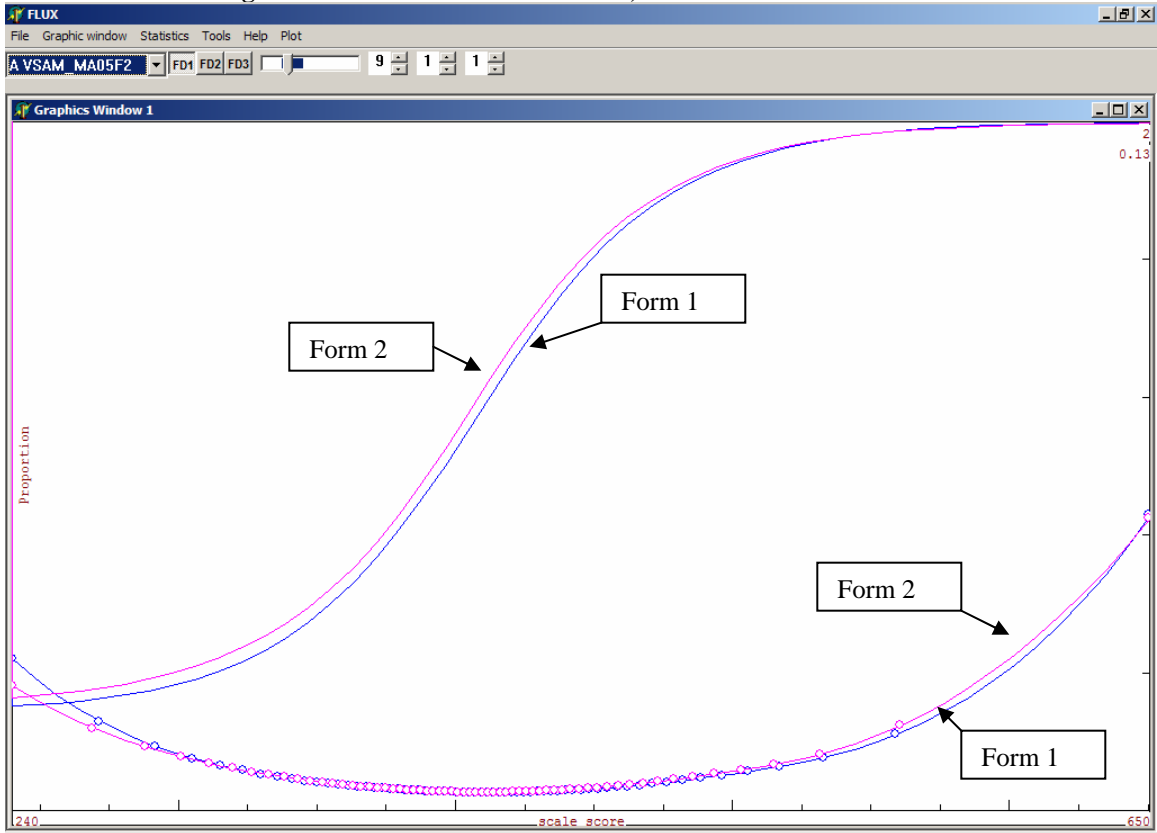
Figure 34. Grade 6 TCC & SE Plot, Form 1 and Form 2
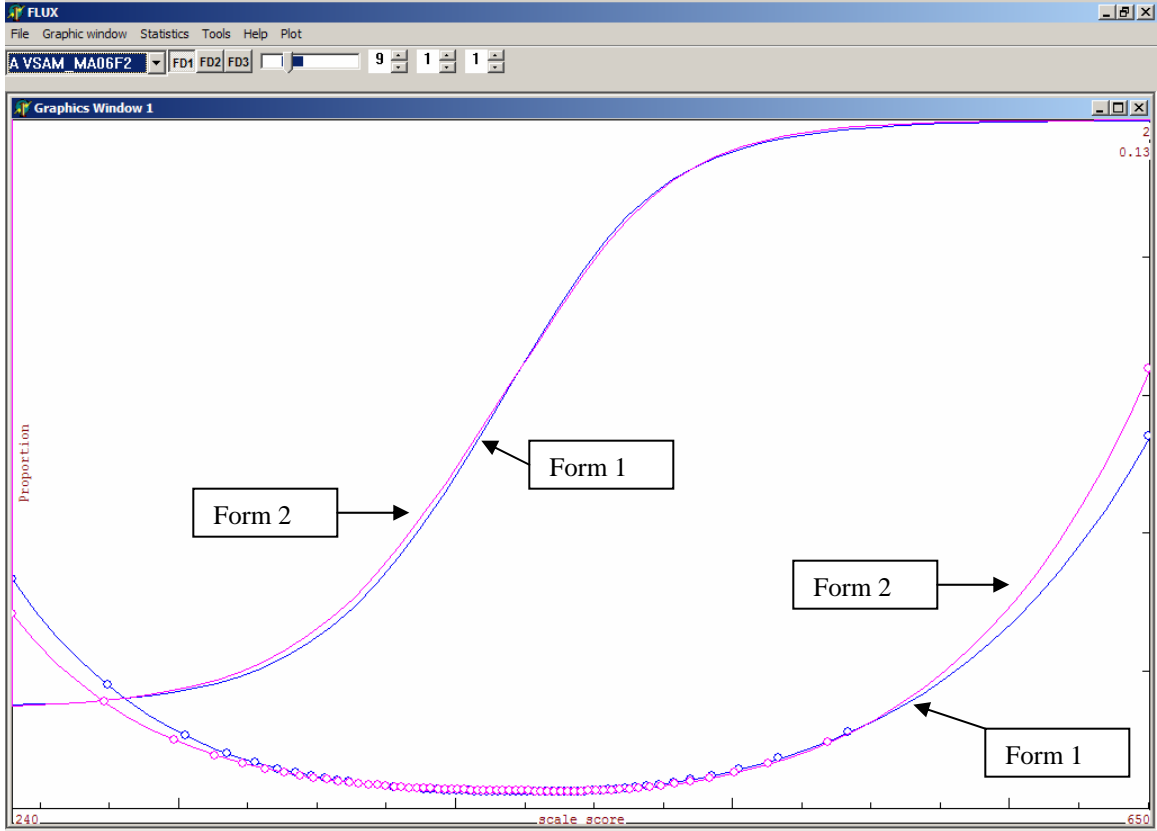
Figure 35.   Grade 7 TCC & SE Plot, Form 1 and Form 2
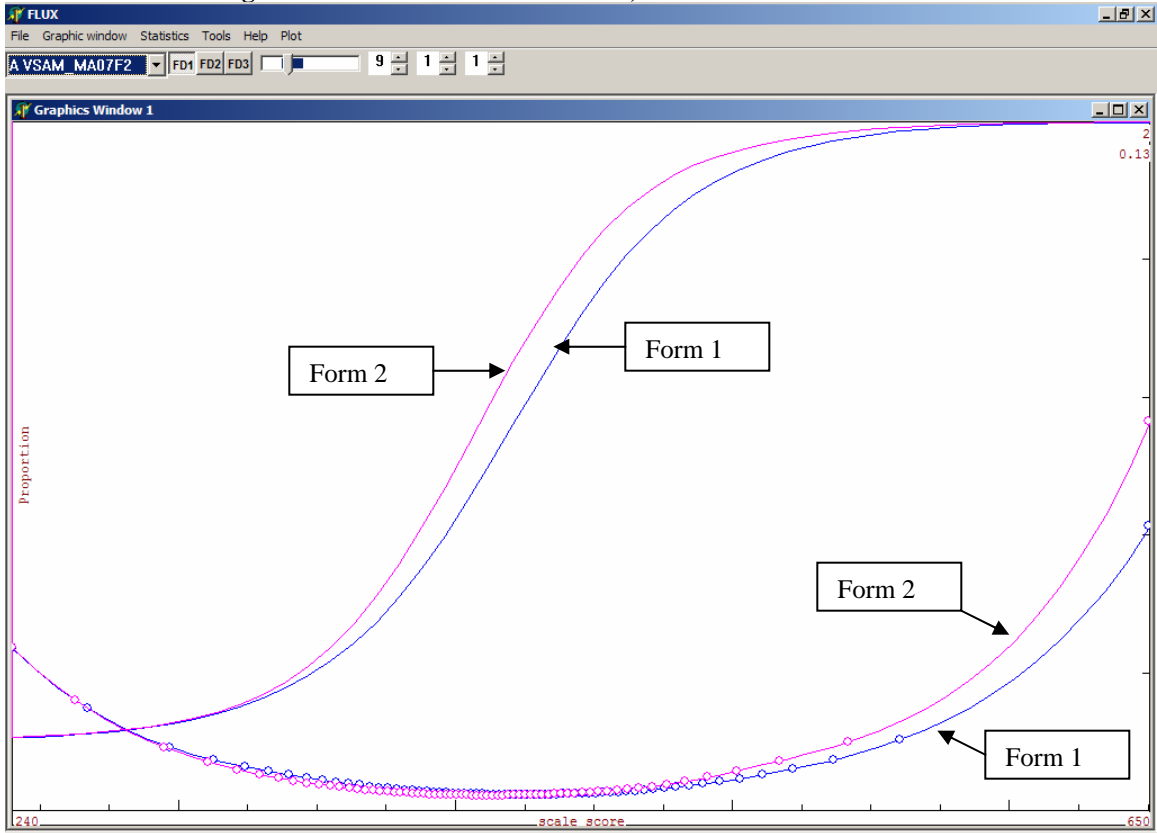
Figure 36. Grade 8 TCC & SE Plot, Form 1 and Form 2
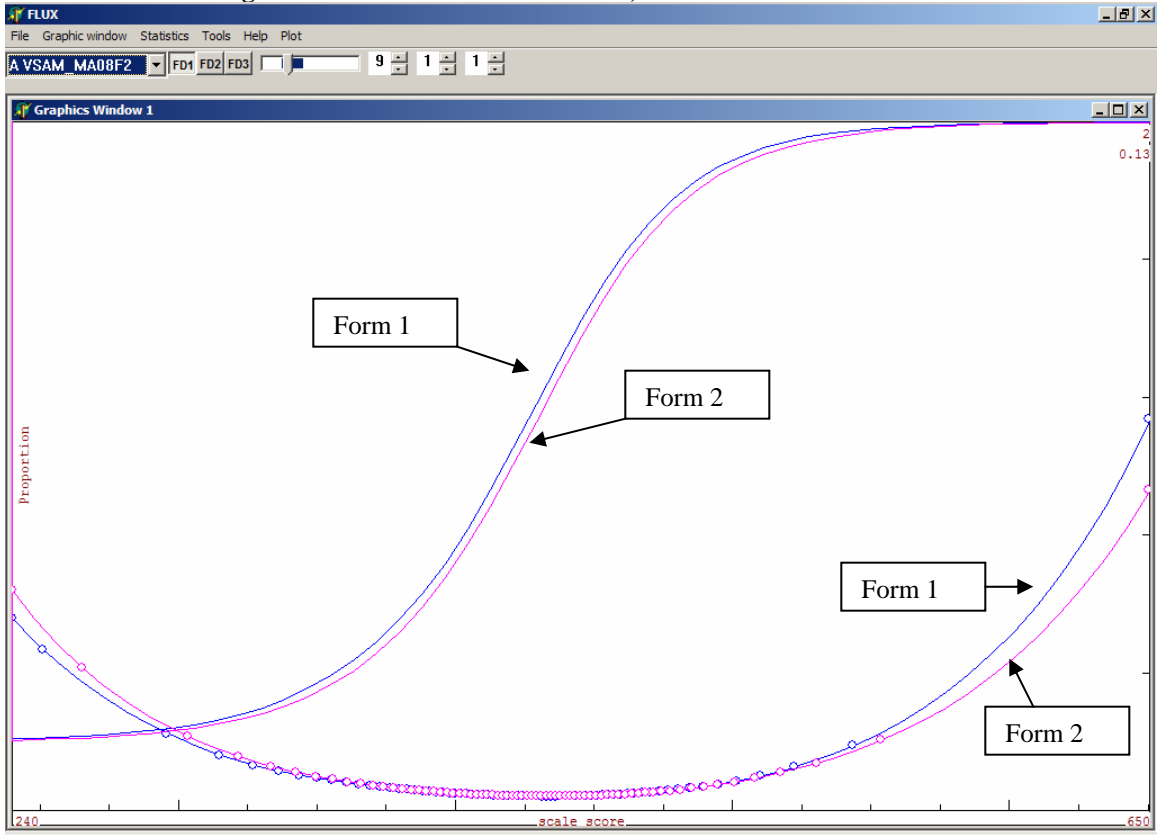
Table 17. Grade 7 Gridded Response Item Comparison

Gridded Response Items, Grade 7, Form 1
Mean P_Val=.367

Item_ID	Item Number	N	P_Val	CORR	Pct_Omit
00470196	54	4684	0.19	0.55	11.25%
00472934	55	4636	0.34	0.61	12.16%
00470200	56	4623	0.37	0.63	12.41%
00470202	57	4621	0.59	0.52	12.45%
00470218	64	4886	0.47	0.50	7.43%
00470220	65	5070	0.38	0.41	3.94%
00470222	66	4976	0.50	0.51	5.72%
00470224	67	4807	0.34	0.46	8.92%
00618177	77	5056	0.18	0.43	4.21%
00469780	78	5139	0.23	0.53	2.63%
00469784	79	5026	0.29	0.65	4.78%
00469782	80	5079	0.52	0.49	3.77%

Gridded Response Items, Grade 7, Form 2
Mean P_Val=.535

Item_ID	Item Number	N	P_Val	CORR	Pct_Omit
00472900	54	3226	0.62	0.57	8.92%
00472904	55	3192	0.59	0.55	9.88%
00472906	56	3137	0.49	0.62	11.43%
00472951	57	3103	0.65	0.47	12.39%
00472985	63	3215	0.29	0.43	9.23%
00472987	64	3249	0.44	0.43	8.27%
00472991	65	3395	0.65	0.50	4.15%
00472989	66	3405	0.58	0.54	3.87%
00469803	77	3469	0.54	0.55	2.06%
00469805	78	3463	0.62	0.54	2.23%
00469807	79	3424	0.66	0.38	3.33%
00469784	80	3356	0.29	0.64	5.25%

Table 18. 2004 and 2005 Summary Statistics for Schools in the MSA 2005 Calibration Sample.

Grade	Form	N	2005 Calibration Sample			2004 Calibration Schools		
			Mean	SD		N	Mean	SD
3	1	4000	411.45	50.55				
3	2	2633	410.64	48.59				
3	Combined	6633	411.13	49.78		7036	403.22	47.35
4	1	4197	404.15	45.39				
4	2	2802	406.44	44.10				
4	Combined	6998	405.07	44.89		7358	392.62	46.57
5	1	4473	410.83	46.25				
5	2	2955	411.63	45.41				
5	Combined	7425	411.17	45.91		7619	403.07	49.35
6	1	5252	401.83	45.73				
6	2	3487	400.07	44.29				
6	Combined	8739	401.13	45.16		9326	389.27	49.14
7	1	5278	400.03	47.63				
7	2	3542	399.82	46.50				
7	Combined	8820	399.95	47.18		9392	390.46	49.77
8	1	4375	407.64	41.45				
8	2	4363	407.27	41.03				
8	Combined	8738	407.46	41.23		9378	397.22	50.87

Table 19. MSA Score Trends: 2003 vs. 2004 Population Means and 2004 vs. 2005 Calibration School Means

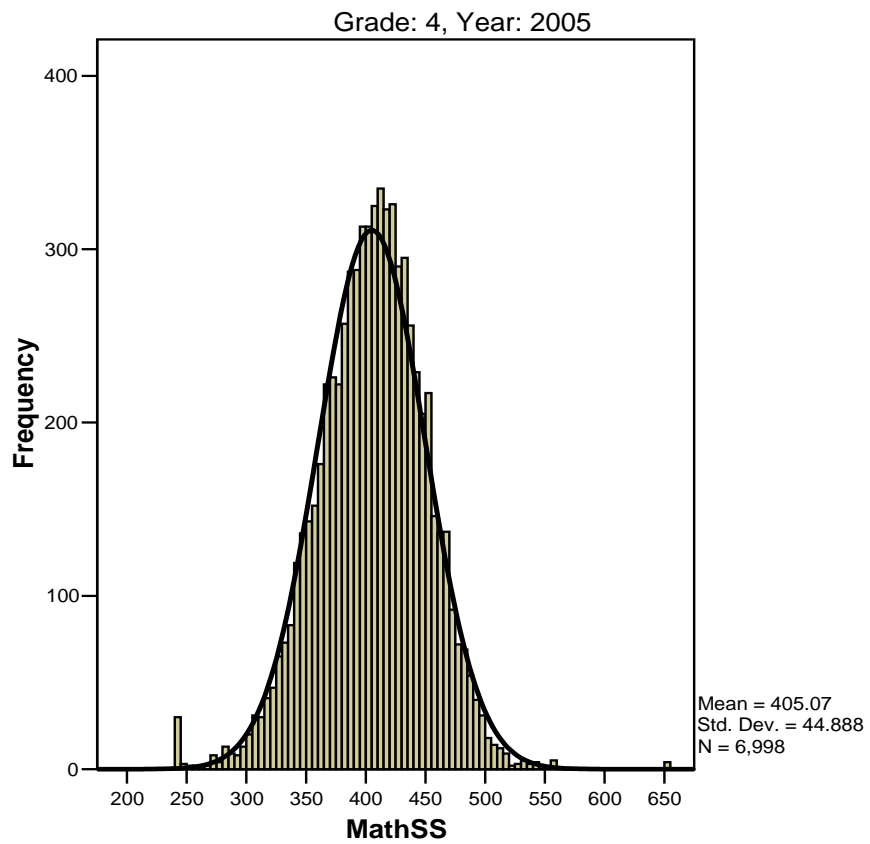| Grade	Year	Population N	Population Mean	Calibration N	Calibration Mean
3	2003	64373	394.87		
	2004	62961	403.75	7036	403.22
	2005			6633	411.13
	04-03		8.88		
	05-04				7.91
4	2003	0	N/A		
	2004	65013	394.51	7358	392.62
	2005			6998	405.07
	04-03		N/A		
	05-04				12.45
5	2003	67615	392.76		
	2004	66176	402.18	7619	403.07
	2005			7425	411.17
	04-03		9.42		
	05-04				8.10
6	2003	0	N/A		
	2004	68229	390.82	9326	389.27
	2005			8739	401.13
	04-03		N/A		
	05-04				11.86
7	2003	0	N/A		
	2004	69327	391.13	9392	390.46
	2005			8820	399.95
	04-03		N/A		
	05-04				9.49
8	2003	67301	389.46		
	2004	68659	397.14	9378	397.22
	2005			8738	407.46
	04-03		7.68		
	05-04				10.24

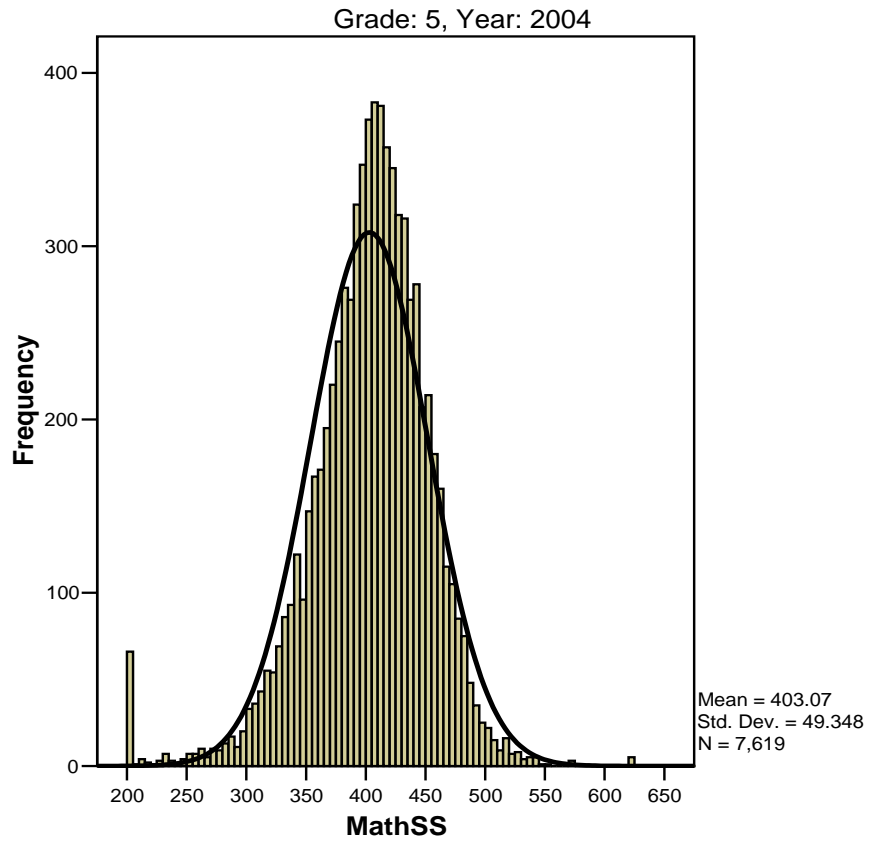**Figure 37. 2004 and 2005 Scale Score Distributions for Schools in the Grade 3 Calibration Sample**

Grade: 3, Year: 2004

Mean = 403.22
Std. Dev. = 47.351
N = 7,036

Grade: 3, Year: 2005

Mean = 411.13
Std. Dev. = 49.783
N = 6,633
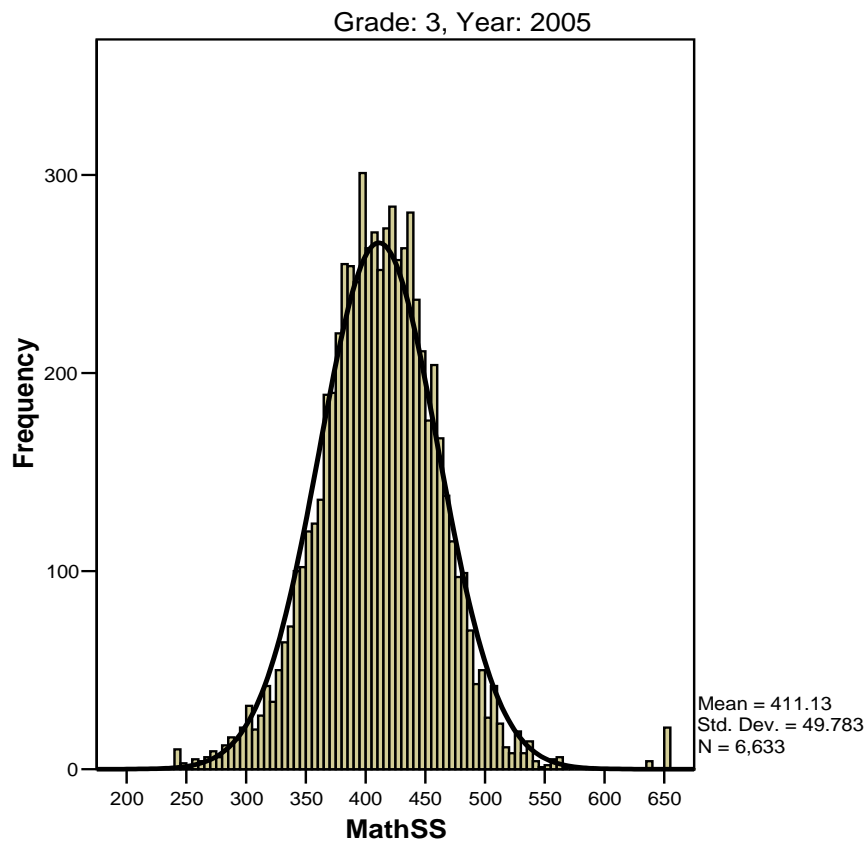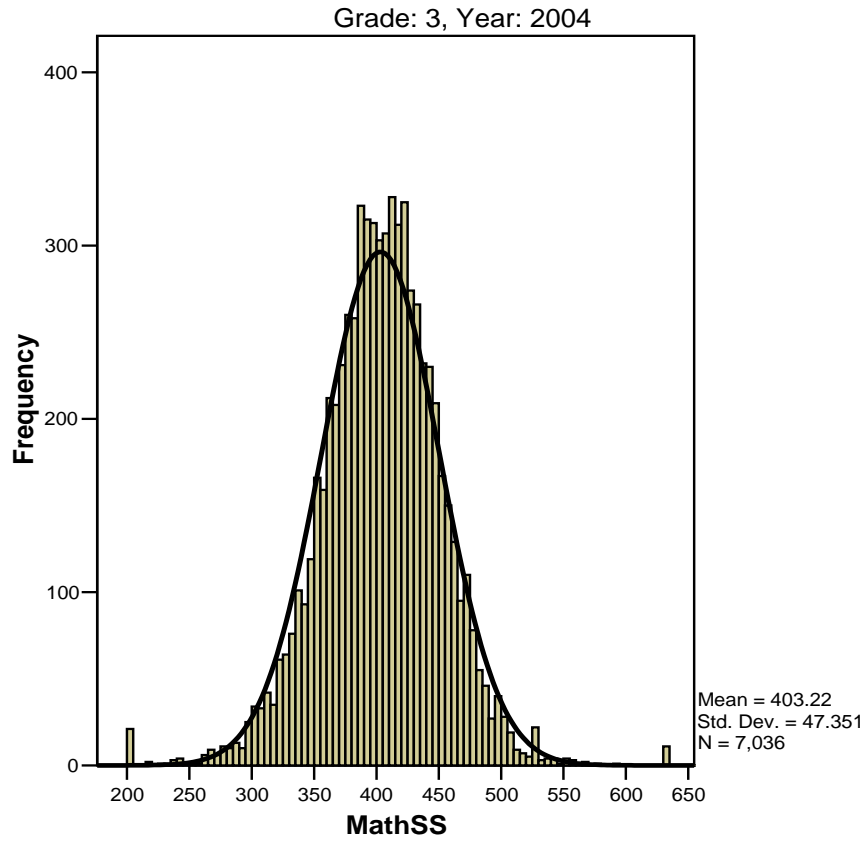
Figure 38. 2004 and 2005 Scale Score Distributions for Schools in the Grade 4 Calibration Sample

Grade: 4, Year: 2004

Mean = 392.62
Std. Dev. = 46.568
N = 7,358

Grade: 4, Year: 2005

Mean = 405.07
Std. Dev. = 44.888
N = 6,998
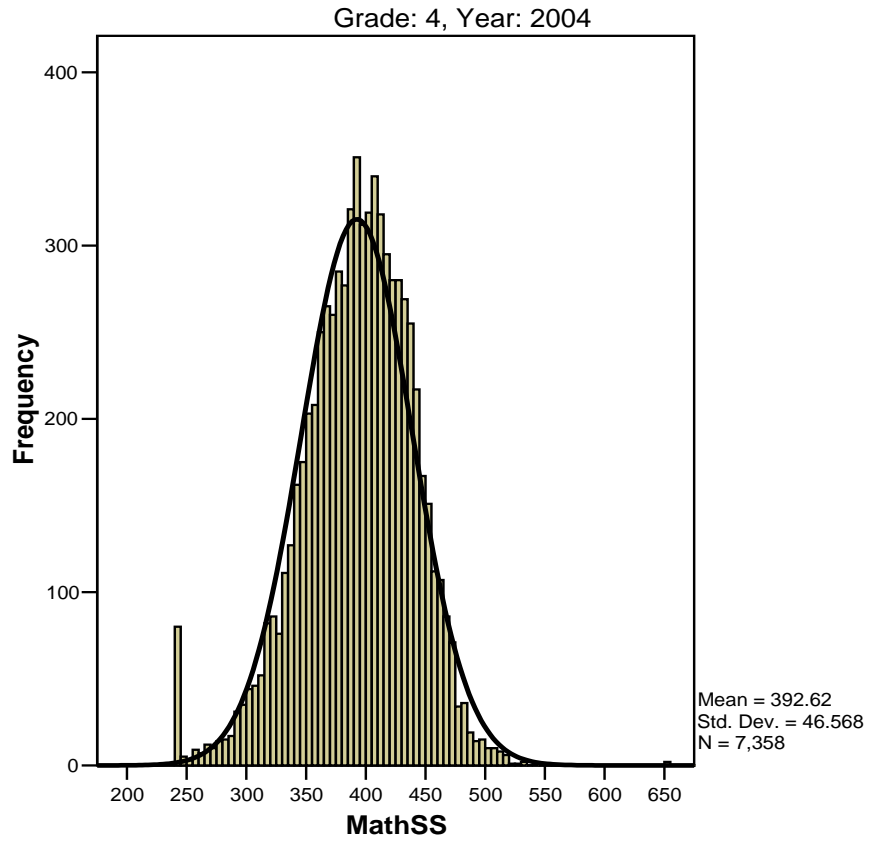
Figure 39. 2004 and 2005 Scale Score Distributions for Schools in the Grade 5 Calibration Sample
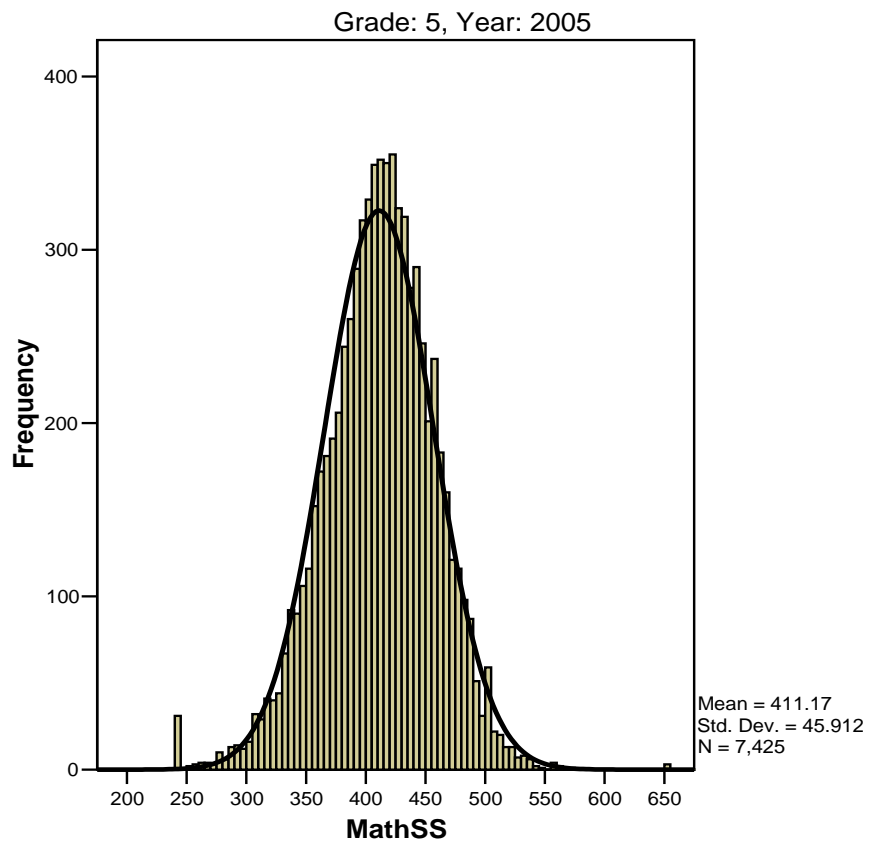
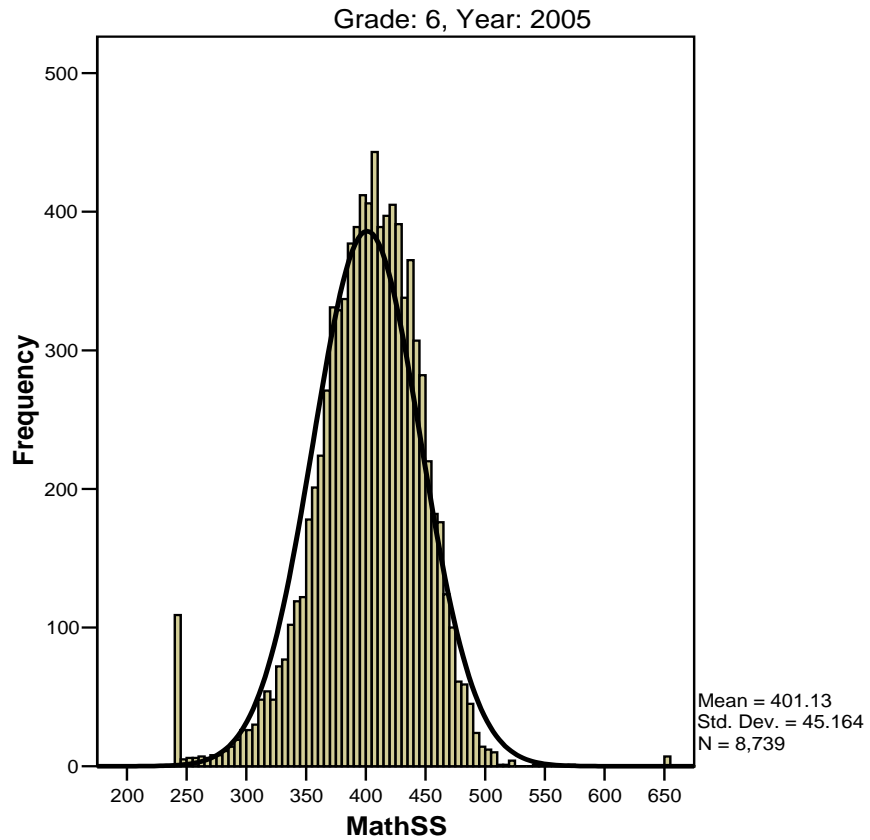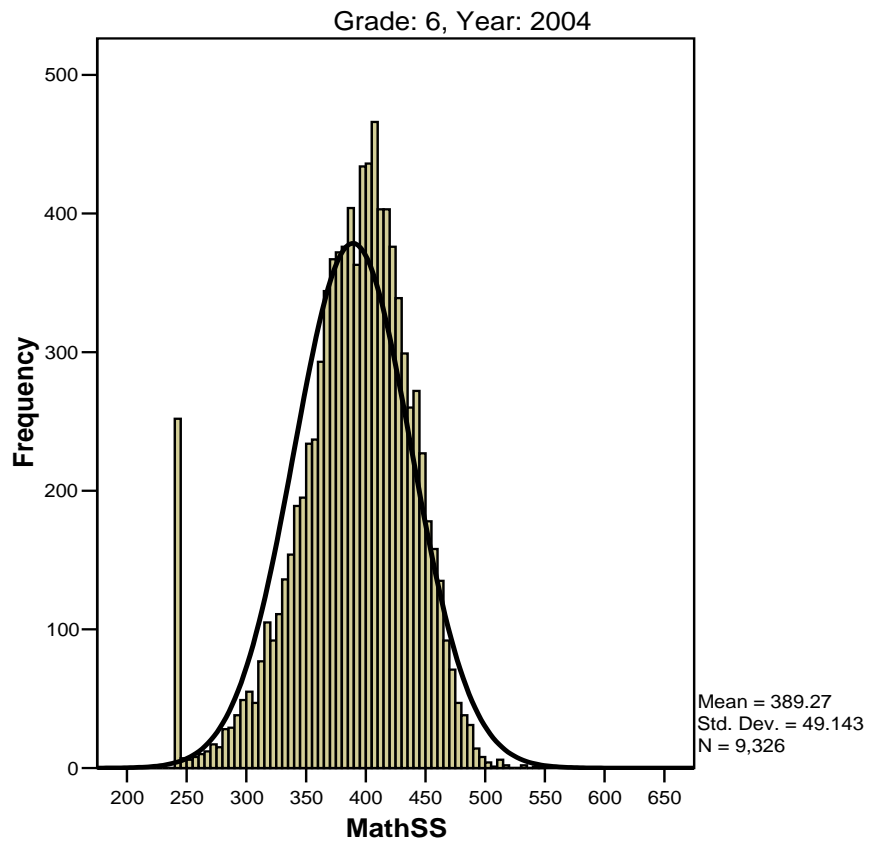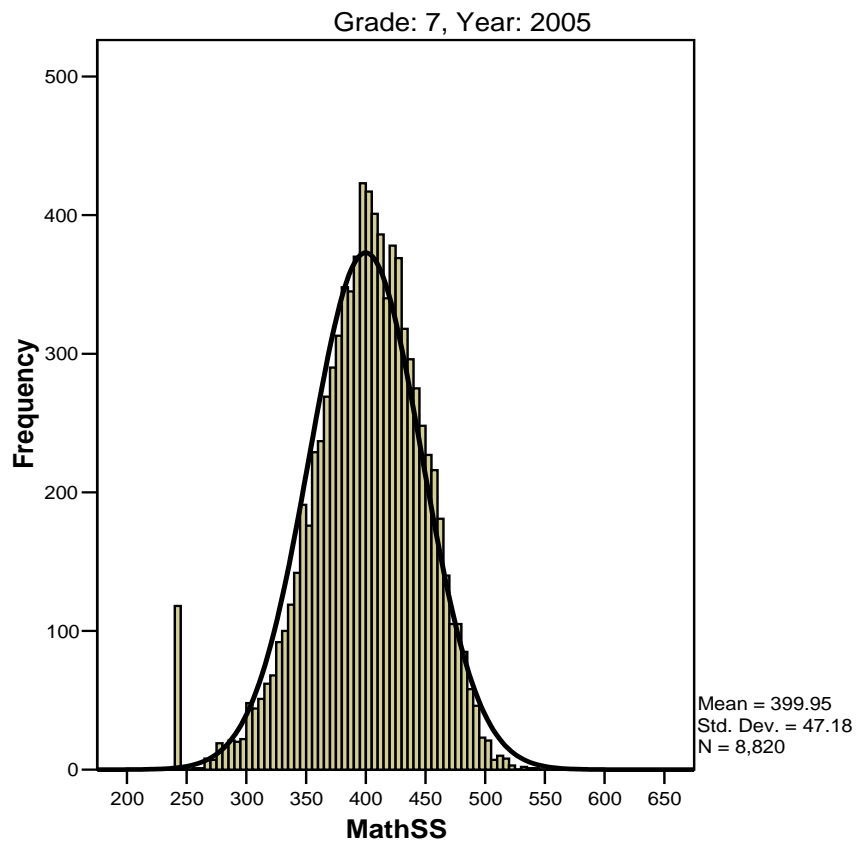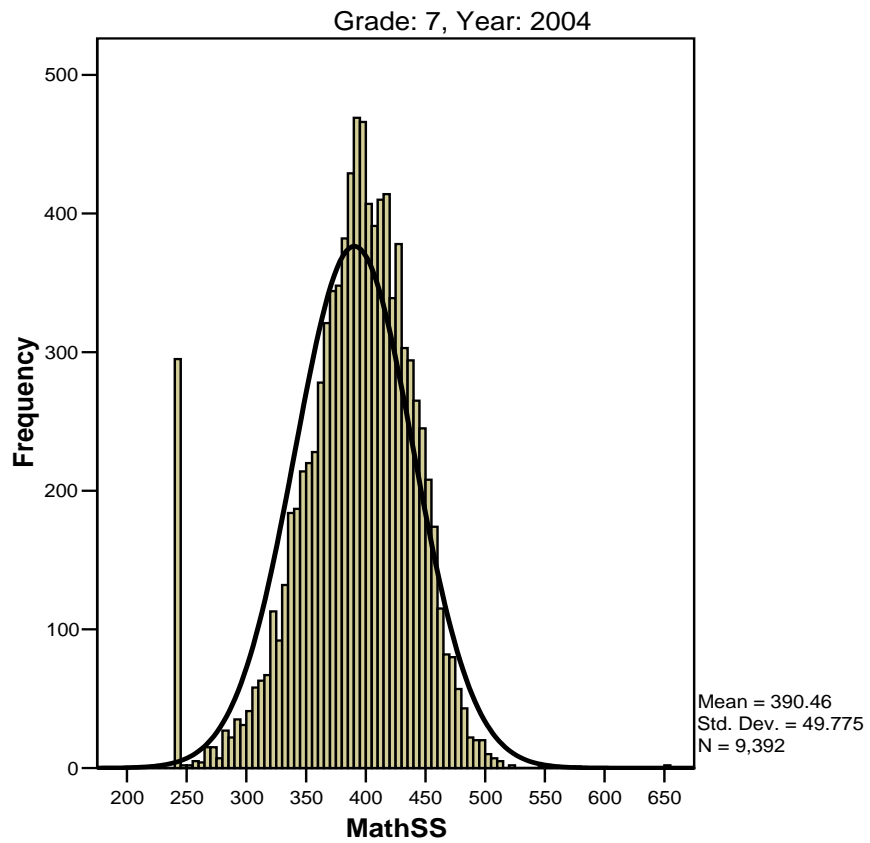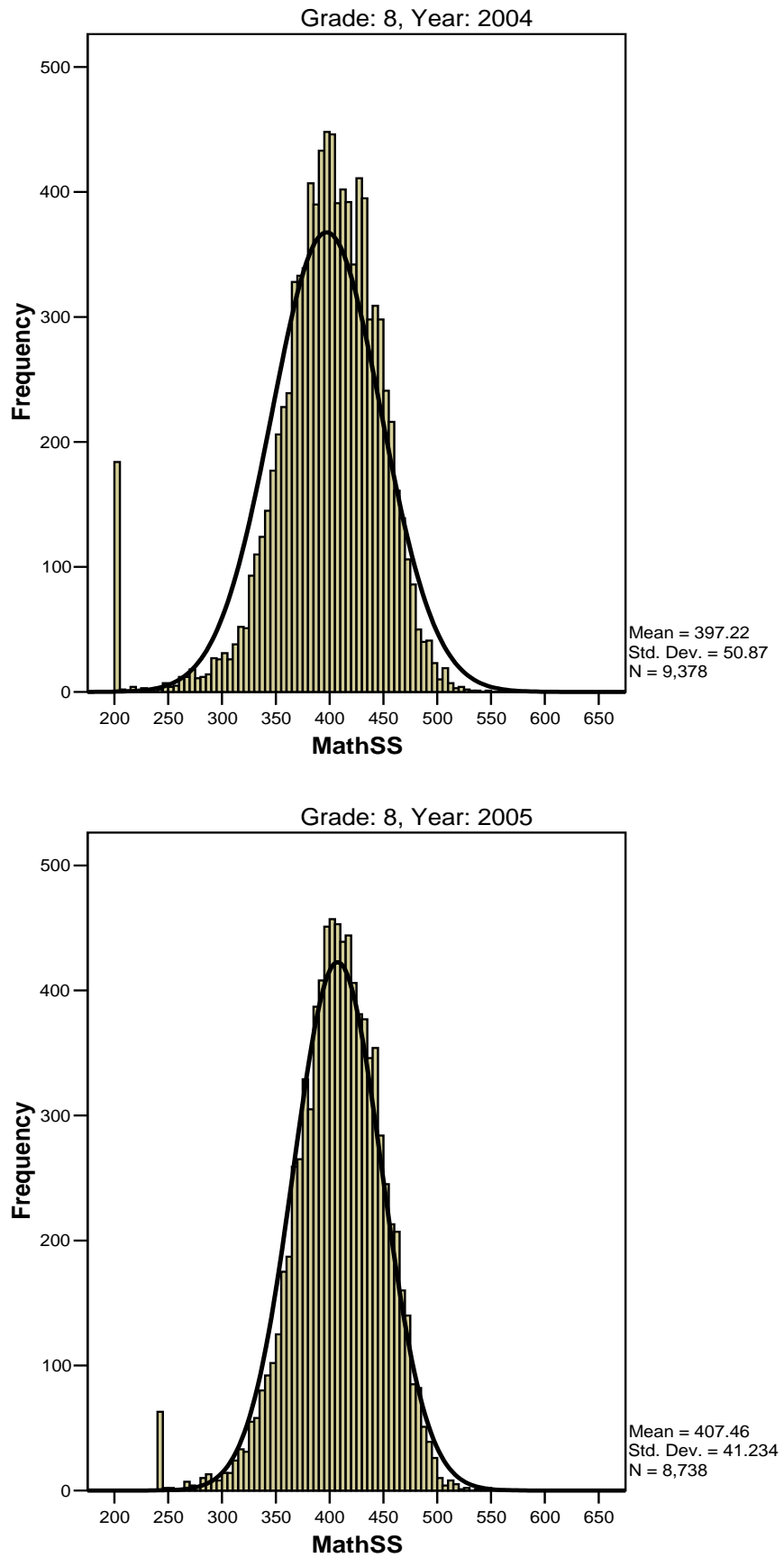**Figure 40. 2004 and 2005 Scale Score Distributions for Schools in the Grade 6 Calibration Sample**

Grade: 6, Year: 2004

Mean = 389.27
Std. Dev. = 49.143
N = 9,326

Grade: 6, Year: 2005

Mean = 401.13
Std. Dev. = 45.164
N = 8,739

Figure 41. **2004 and 2005 Scale Score Distributions for Schools in the Grade 7 Calibration Sample**

Grade: 7, Year: 2004

Mean = 390.46
Std. Dev. = 49.775
N = 9,392

Grade: 7, Year: 2005

Mean = 399.95
Std. Dev. = 47.18
N = 8,820

Figure 42. 2004 and 2005 Scale Score Distributions for Schools in the Grade 8 Calibration Sample

Grade: 8, Year: 2004

Mean = 397.22
Std. Dev. = 50.87
N = 9,378

Grade: 8, Year: 2005

Mean = 407.46
Std. Dev. = 41.234
N = 8,738

Figure 43. 2004 and 2005 Proportion of Students Above Cut in Calibration Sample Schools