

APPENDIX 16: RAW-TO-SCALE SCORE TABLES

GRADE 3

Table 16–1. Grade 3 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	114	0	0.00	0	0.00
1	100	63	0	0.00	0	0.00
2	100	45	2	0.02	2	0.02
3	100	37	3	0.03	5	0.05
4	109	33	1	0.01	6	0.06
5	125	30	1	0.01	7	0.07
6	138	28	2	0.02	9	0.09
7	149	26	3	0.03	12	0.12
8	159	24	9	0.09	21	0.22
9	169	23	13	0.13	34	0.35
10	177	22	31	0.32	65	0.67
11	185	22	25	0.26	90	0.93
12	192	21	34	0.35	124	1.28
13	199	20	64	0.66	188	1.93
14	206	20	60	0.62	248	2.55
15	212	20	83	0.85	331	3.40
16	218	19	96	0.99	427	4.39
17	224	19	95	0.98	522	5.37
18	230	18	107	1.10	629	6.47
19	235	18	96	0.99	725	7.46
20	240	18	110	1.13	835	8.59
21	245	18	119	1.22	954	9.81
22	251	18	117	1.20	1071	11.02
23	255	17	118	1.21	1189	12.23
24	260	17	133	1.37	1322	13.60
25	265	17	134	1.38	1456	14.98
26	270	17	150	1.54	1606	16.52
27	274	17	119	1.22	1725	17.75
28	279	17	127	1.31	1852	19.05
29	284	17	164	1.69	2016	20.74
30	288	17	138	1.42	2154	22.16
31	293	17	133	1.37	2287	23.53
32	297	17	149	1.53	2436	25.06
33	302	17	160	1.65	2596	26.71
34	306	17	170	1.75	2766	28.45
35	311	17	163	1.68	2929	30.13
36	315	17	172	1.77	3101	31.90
37	320	17	204	2.10	3305	34.00
38	325	17	203	2.09	3508	36.09

Table 16–1 (continued). Grade 3 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
39	329	17	213	2.19	3721	38.28
40	334	17	207	2.13	3928	40.41
41	339	17	217	2.23	4145	42.64
42	344	17	249	2.56	4394	45.20
43	349	18	226	2.32	4620	47.53
44	354	18	271	2.79	4891	50.31
45	359	18	269	2.77	5160	53.08
46	364	18	288	2.96	5448	56.04
47	370	19	283	2.91	5731	58.95
48	375	19	296	3.04	6027	62.00
49	381	19	297	3.06	6324	65.06
50	388	20	319	3.28	6643	68.34
51	394	20	277	2.85	6920	71.19
52	401	21	321	3.30	7241	74.49
53	408	22	308	3.17	7549	77.66
54	416	22	317	3.26	7866	80.92
55	424	23	312	3.21	8178	84.13
56	434	24	285	2.93	8463	87.06
57	444	26	312	3.21	8775	90.27
58	455	27	255	2.62	9030	92.89
59	468	30	230	2.37	9260	95.26
60	484	33	188	1.93	9448	97.19
61	503	37	142	1.46	9590	98.65
62	530	45	89	0.92	9679	99.57
63	574	63	35	0.36	9714	99.93
64	600	114	7	0.07	9721	100.00

Table 16–2. Grade 3 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	43	0.44	43	0.44
1	140	65	146	1.50	189	1.94
2	190	48	293	3.01	482	4.96
3	221	41	439	4.52	921	9.47
4	246	38	504	5.18	1425	14.66
5	268	36	607	6.24	2032	20.90
6	289	35	715	7.36	2747	28.26
7	309	35	837	8.61	3584	36.87
8	329	36	904	9.30	4488	46.17
9	352	38	1066	10.97	5554	57.13
10	376	41	1151	11.84	6705	68.97

Table 16–2 (continued). Grade 3 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
11	405	44	1123	11.55	7828	80.53
12	441	50	999	10.28	8827	90.80
13	493	66	673	6.92	9500	97.73
14	573	115	221	2.27	9721	100.00

Table 16–3. Grade 3 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	19	0.20	19	0.20
1	125	67	97	1.00	116	1.19
2	178	51	248	2.55	364	3.74
3	214	45	426	4.38	790	8.13
4	245	43	604	6.21	1394	14.34
5	274	43	831	8.55	2225	22.89
6	305	45	1177	12.11	3402	35.00
7	341	51	1660	17.08	5062	52.07
8	395	67	2234	22.98	7296	75.05
9	476	116	2425	24.95	9721	100.00

Table 16–4. Grade 3 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	101	1.04	101	1.04
1	162	66	330	3.39	431	4.43
2	213	49	492	5.06	923	9.49
3	246	42	639	6.57	1562	16.07
4	271	38	652	6.71	2214	22.78
5	292	35	642	6.60	2856	29.38
6	311	34	683	7.03	3539	36.41
7	329	33	707	7.27	4246	43.68
8	347	34	772	7.94	5018	51.62
9	366	35	800	8.23	5818	59.85
10	386	37	886	9.11	6704	68.96
11	410	41	888	9.13	7592	78.10
12	441	48	913	9.39	8505	87.49
13	490	65	792	8.15	9297	95.64
14	568	115	424	4.36	9721	100.00

Table 16–5. Grade 3 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	82	0.84	82	0.84
1	171	67	259	2.66	341	3.51
2	226	52	594	6.11	935	9.62
3	263	46	937	9.64	1872	19.26
4	295	44	1119	11.51	2991	30.77
5	326	43	1326	13.64	4317	44.41
6	357	46	1521	15.65	5838	60.06
7	394	51	1465	15.07	7303	75.13
8	448	67	1480	15.22	8783	90.35
9	529	116	938	9.65	9721	100.00

Table 16–6. Grade 3 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	21	0.22	21	0.22
1	110	68	86	0.88	107	1.10
2	166	53	217	2.23	324	3.33
3	206	48	395	4.06	719	7.40
4	241	47	631	6.49	1350	13.89
5	277	48	1009	10.38	2359	24.27
6	315	50	1689	17.37	4048	41.64
7	361	56	2479	25.50	6527	67.14
8	423	71	2280	23.45	8807	90.60
9	511	118	914	9.40	9721	100.00

Table 16–7. Grade 3 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	71	0.73	71	0.73
1	133	68	226	2.32	297	3.06
2	190	53	435	4.47	732	7.53
3	231	48	692	7.12	1424	14.65
4	266	46	832	8.56	2256	23.21
5	299	45	798	8.21	3054	31.42
6	333	47	1004	10.33	4058	41.74
7	372	52	1362	14.01	5420	55.76
8	428	68	2043	21.02	7463	76.77
9	511	116	2258	23.23	9721	100.00

Table 16–8. Grade 3 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	59	0	0.00	0	0.00
1	100	59	1	0.01	1	0.01
2	112	42	5	0.05	6	0.06
3	137	35	2	0.02	8	0.08
4	155	30	2	0.02	10	0.10
5	170	28	8	0.08	18	0.19
6	182	26	12	0.12	30	0.31
7	193	24	12	0.12	42	0.43
8	202	23	27	0.28	69	0.71
9	211	22	41	0.42	110	1.13
10	218	21	54	0.56	164	1.69
11	225	20	72	0.74	236	2.43
12	232	19	99	1.02	335	3.46
13	239	19	111	1.15	446	4.60
14	244	18	114	1.18	560	5.78
15	250	18	143	1.48	703	7.25
16	256	18	152	1.57	855	8.82
17	260	17	161	1.66	1016	10.48
18	266	17	135	1.39	1151	11.87
19	271	17	146	1.51	1297	13.38
20	276	17	122	1.26	1419	14.64
21	280	16	130	1.34	1549	15.98
22	285	16	146	1.51	1695	17.49
23	289	16	138	1.42	1833	18.91
24	294	16	134	1.38	1967	20.29
25	298	16	136	1.40	2103	21.69
26	302	16	141	1.45	2244	23.15
27	307	16	146	1.51	2390	24.65
28	311	16	153	1.58	2543	26.23
29	315	16	156	1.61	2699	27.84
30	319	16	159	1.64	2858	29.48
31	324	16	159	1.64	3017	31.12
32	328	16	162	1.67	3179	32.79
33	332	16	209	2.16	3388	34.95
34	336	16	178	1.84	3566	36.79
35	341	16	184	1.90	3750	38.68
36	345	16	195	2.01	3945	40.70
37	349	16	189	1.95	4134	42.64
38	354	16	212	2.19	4346	44.83
39	359	16	198	2.04	4544	46.87
40	363	17	216	2.23	4760	49.10
41	368	17	232	2.39	4992	51.50
42	373	17	236	2.43	5228	53.93
43	378	17	266	2.74	5494	56.67
44	384	18	268	2.76	5762	59.44

Table 16–8 (continued). Grade 3 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
45	389	18	246	2.54	6008	61.98
46	395	19	291	3.00	6299	64.98
47	401	19	270	2.79	6569	67.76
48	408	19	281	2.90	6850	70.66
49	414	20	296	3.05	7146	73.72
50	422	21	273	2.82	7419	76.53
51	429	22	324	3.34	7743	79.87
52	438	23	303	3.13	8046	83.00
53	447	24	289	2.98	8335	85.98
54	457	25	299	3.08	8634	89.07
55	469	27	268	2.76	8902	91.83
56	483	30	255	2.63	9157	94.46
57	501	34	213	2.20	9370	96.66
58	525	41	168	1.73	9538	98.39
59	566	58	105	1.08	9643	99.47
60	600	105	51	0.53	9694	100.00

Table 16–9. Grade 3 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	107	11	0.11	11	0.11
1	132	61	32	0.33	43	0.44
2	178	45	100	1.03	143	1.48
3	208	39	188	1.94	331	3.41
4	231	35	263	2.71	594	6.13
5	251	33	408	4.21	1002	10.34
6	269	32	430	4.44	1432	14.77
7	286	31	505	5.21	1937	19.98
8	303	31	551	5.68	2488	25.67
9	320	31	649	6.69	3137	32.36
10	337	32	685	7.07	3822	39.43
11	355	33	786	8.11	4608	47.53
12	376	36	891	9.19	5499	56.73
13	400	39	987	10.18	6486	66.91
14	431	46	1156	11.92	7642	78.83
15	479	62	1145	11.81	8787	90.64
16	554	108	907	9.36	9694	100.00

Table 16–10. Grade 3 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	106	6	0.06	6	0.06
1	120	59	5	0.05	11	0.11
2	163	43	33	0.34	44	0.45
3	190	36	65	0.67	109	1.12
4	209	32	122	1.26	231	2.38
5	225	29	157	1.62	388	4.00
6	238	27	226	2.33	614	6.33
7	250	25	272	2.81	886	9.14
8	260	24	287	2.96	1173	12.10
9	270	23	288	2.97	1461	15.07
10	279	22	256	2.64	1717	17.71
11	287	22	245	2.53	1962	20.24
12	295	21	273	2.82	2235	23.06
13	303	21	276	2.85	2511	25.90
14	311	21	277	2.86	2788	28.76
15	318	21	275	2.84	3063	31.60
16	326	21	297	3.06	3360	34.66
17	333	21	319	3.29	3679	37.95
18	341	21	316	3.26	3995	41.21
19	349	21	329	3.39	4324	44.60
20	357	22	354	3.65	4678	48.26
21	365	22	350	3.61	5028	51.87
22	374	23	420	4.33	5448	56.20
23	384	24	427	4.40	5875	60.60
24	394	25	441	4.55	6316	65.15
25	405	27	477	4.92	6793	70.07
26	419	29	512	5.28	7305	75.36
27	434	31	560	5.78	7865	81.13
28	453	35	600	6.19	8465	87.32
29	479	42	554	5.71	9019	93.04
30	521	59	429	4.43	9448	97.46
31	592	106	246	2.54	9694	100.00

Table 16–11. Grade 3 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	108	35	0.36	35	0.36
1	165	62	186	1.92	221	2.28
2	214	47	355	3.66	576	5.94
3	247	41	553	5.70	1129	11.65
4	275	39	656	6.77	1785	18.41
5	300	37	741	7.64	2526	26.06
6	323	37	864	8.91	3390	34.97

Table 16–11 (continued). Grade 3 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
7	347	37	943	9.73	4333	44.70
8	372	38	1068	11.02	5401	55.71
9	398	39	1137	11.73	6538	67.44
10	426	41	1075	11.09	7613	78.53
11	458	45	930	9.59	8543	88.13
12	502	59	729	7.52	9272	95.65
13	572	104	422	4.35	9694	100.00

Table 16–12. Grade 3 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	113	1	0.01	1	0.01
1	100	62	1	0.01	2	0.02
2	100	45	1	0.01	3	0.03
3	124	37	3	0.03	6	0.06
4	143	32	5	0.05	11	0.11
5	159	29	7	0.07	18	0.19
6	172	27	8	0.08	26	0.27
7	183	25	16	0.17	42	0.43
8	193	24	19	0.20	61	0.63
9	202	23	39	0.40	100	1.03
10	210	22	57	0.59	157	1.62
11	217	21	90	0.93	247	2.55
12	224	20	97	1.00	344	3.55
13	231	20	110	1.13	454	4.68
14	237	19	132	1.36	586	6.04
15	243	19	142	1.46	728	7.51
16	249	19	135	1.39	863	8.90
17	254	18	174	1.79	1037	10.70
18	260	18	155	1.60	1192	12.29
19	265	18	164	1.69	1356	13.99
20	270	17	163	1.68	1519	15.67
21	275	17	171	1.76	1690	17.43
22	280	17	156	1.61	1846	19.04
23	284	17	139	1.43	1985	20.47
24	289	17	151	1.56	2136	22.03
25	293	17	159	1.64	2295	23.67
26	298	17	152	1.57	2447	25.24
27	302	17	145	1.50	2592	26.73
28	307	17	180	1.86	2772	28.59
29	311	16	157	1.62	2929	30.21
30	316	16	115	1.19	3044	31.39
31	320	16	140	1.44	3184	32.84

Table 16–12 (continued). Grade 3 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
32	325	17	213	2.20	3397	35.04
33	329	17	177	1.83	3574	36.86
34	333	17	191	1.97	3765	38.83
35	338	17	177	1.83	3942	40.66
36	343	17	183	1.89	4125	42.54
37	347	17	187	1.93	4312	44.47
38	352	17	211	2.18	4523	46.65
39	357	17	199	2.05	4722	48.70
40	362	17	245	2.53	4967	51.23
41	367	18	252	2.60	5219	53.83
42	372	18	260	2.68	5479	56.51
43	377	18	275	2.84	5754	59.34
44	383	19	253	2.61	6007	61.95
45	389	19	266	2.74	6273	64.70
46	395	20	304	3.14	6577	67.83
47	401	20	300	3.09	6877	70.93
48	408	21	282	2.91	7159	73.83
49	415	21	294	3.03	7453	76.87
50	423	22	303	3.13	7756	79.99
51	431	23	296	3.05	8052	83.04
52	440	24	291	3.00	8343	86.05
53	450	26	301	3.10	8644	89.15
54	462	28	306	3.16	8950	92.31
55	475	30	243	2.51	9193	94.81
56	491	33	198	2.04	9391	96.85
57	512	38	136	1.40	9527	98.26
58	539	46	111	1.14	9638	99.40
59	585	63	44	0.45	9682	99.86
60	600	113	14	0.14	9696	100.00

Table 16–13. Grade 3 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	113	3	0.03	3	0.03
1	100	64	9	0.09	12	0.12
2	140	46	25	0.26	37	0.38
3	169	39	51	0.53	88	0.91
4	191	35	93	0.96	181	1.87
5	209	32	156	1.61	337	3.48
6	225	30	230	2.37	567	5.85
7	239	29	293	3.02	860	8.87
8	252	28	298	3.07	1158	11.94

Table 16–13 (continued). Grade 3 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
9	264	27	321	3.31	1479	15.25
10	276	26	393	4.05	1872	19.31
11	287	26	403	4.16	2275	23.46
12	298	26	387	3.99	2662	27.45
13	309	26	407	4.20	3069	31.65
14	320	26	455	4.69	3524	36.34
15	331	26	465	4.80	3989	41.14
16	342	26	489	5.04	4478	46.18
17	354	27	503	5.19	4981	51.37
18	366	28	571	5.89	5552	57.26
19	379	28	576	5.94	6128	63.20
20	392	30	643	6.63	6771	69.83
21	407	31	608	6.27	7379	76.10
22	424	33	596	6.15	7975	82.25
23	444	36	593	6.12	8568	88.37
24	467	41	489	5.04	9057	93.41
25	499	48	360	3.71	9417	97.12
26	550	66	211	2.18	9628	99.30
27	600	115	68	0.70	9696	100.00

Table 16–14. Grade 3 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	113	3	0.03	3	0.03
1	118	63	21	0.22	24	0.25
2	164	46	56	0.58	80	0.83
3	192	38	117	1.21	197	2.03
4	213	34	222	2.29	419	4.32
5	230	31	270	2.78	689	7.11
6	245	29	304	3.14	993	10.24
7	258	28	362	3.73	1355	13.97
8	270	27	335	3.46	1690	17.43
9	282	26	317	3.27	2007	20.70
10	292	26	354	3.65	2361	24.35
11	303	25	343	3.54	2704	27.89
12	313	25	347	3.58	3051	31.47
13	323	25	355	3.66	3406	35.13
14	334	25	406	4.19	3812	39.32
15	345	26	473	4.88	4285	44.19
16	356	27	489	5.04	4774	49.24
17	368	28	539	5.56	5313	54.80
18	381	29	634	6.54	5947	61.33
19	396	31	660	6.81	6607	68.14

Table 16–14 (continued). Grade 3 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
20	413	34	742	7.65	7349	75.79
21	433	38	777	8.01	8126	83.81
22	462	46	699	7.21	8825	91.02
23	507	63	549	5.66	9374	96.68
24	584	113	322	3.32	9696	100.00

Table 16–15. Grade 3 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	118	114	219	2.26	219	2.26
1	198	66	582	6.00	801	8.26
2	250	50	876	9.03	1677	17.30
3	285	44	872	8.99	2549	26.29
4	314	41	900	9.28	3449	35.57
5	341	41	894	9.22	4343	44.79
6	370	43	1094	11.28	5437	56.07
7	403	49	1315	13.56	6752	69.64
8	453	65	1557	16.06	8309	85.70
9	532	114	1387	14.30	9696	100.00

GRADE 4

Table 16–16. Grade 4 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	123	0	0.00	0	0.00
1	100	68	0	0.00	0	0.00
2	100	49	0	0.00	0	0.00
3	100	40	1	0.01	1	0.01
4	100	35	0	0.00	1	0.01
5	104	32	2	0.02	3	0.03
6	118	30	3	0.03	6	0.06
7	130	28	3	0.03	9	0.09
8	141	26	3	0.03	12	0.13
9	151	25	6	0.06	18	0.19
10	160	24	10	0.10	28	0.29
11	169	23	15	0.16	43	0.45
12	177	23	19	0.20	62	0.65
13	184	22	28	0.29	90	0.94

Table 16–16 (continued). Grade 4 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
14	191	21	33	0.35	123	1.29
15	198	21	52	0.55	175	1.84
16	204	21	73	0.77	248	2.60
17	211	20	72	0.76	320	3.36
18	217	20	74	0.78	394	4.13
19	222	20	96	1.01	490	5.14
20	228	19	91	0.95	581	6.10
21	233	19	103	1.08	684	7.18
22	239	19	106	1.11	790	8.29
23	244	19	112	1.17	902	9.46
24	249	18	123	1.29	1025	10.75
25	254	18	114	1.20	1139	11.95
26	259	18	138	1.45	1277	13.40
27	264	18	137	1.44	1414	14.83
28	269	18	121	1.27	1535	16.10
29	274	18	168	1.76	1703	17.87
30	278	18	131	1.37	1834	19.24
31	283	18	142	1.49	1976	20.73
32	287	18	164	1.72	2140	22.45
33	292	17	187	1.96	2327	24.41
34	297	17	167	1.75	2494	26.16
35	301	17	169	1.77	2663	27.94
36	306	18	172	1.80	2835	29.74
37	310	18	182	1.91	3017	31.65
38	315	18	190	1.99	3207	33.64
39	320	18	198	2.08	3405	35.72
40	324	18	231	2.42	3636	38.15
41	329	18	254	2.66	3890	40.81
42	334	18	217	2.28	4107	43.09
43	339	19	240	2.52	4347	45.60
44	344	19	253	2.65	4600	48.26
45	350	19	231	2.42	4831	50.68
46	355	19	272	2.85	5103	53.54
47	361	20	285	2.99	5388	56.53
48	367	20	276	2.90	5664	59.42
49	373	21	292	3.06	5956	62.48
50	380	21	301	3.16	6257	65.64
51	387	22	327	3.43	6584	69.07
52	394	22	306	3.21	6890	72.28
53	402	23	337	3.54	7227	75.82
54	410	24	321	3.37	7548	79.19
55	419	25	311	3.26	7859	82.45
56	429	26	329	3.45	8188	85.90
57	439	28	334	3.50	8522	89.40
58	452	30	272	2.85	8794	92.26

Table 16–16 (continued). Grade 4 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
59	466	32	242	2.54	9036	94.80
60	483	35	212	2.22	9248	97.02
61	504	40	146	1.53	9394	98.55
62	533	49	82	0.86	9476	99.41
63	581	68	47	0.49	9523	99.91
64	600	123	9	0.09	9532	100.00

Table 16–17. Grade 4 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	1	0.01	1	0.01
1	100	70	14	0.15	15	0.16
2	115	52	43	0.45	58	0.61
3	150	45	94	0.99	152	1.59
4	176	41	133	1.40	285	2.99
5	199	38	197	2.07	482	5.06
6	220	37	263	2.76	745	7.82
7	240	36	356	3.73	1101	11.55
8	260	36	414	4.34	1515	15.89
9	279	36	534	5.60	2049	21.50
10	299	37	595	6.24	2644	27.74
11	321	39	799	8.38	3443	36.12
12	345	41	941	9.87	4384	45.99
13	373	46	1114	11.69	5498	57.68
14	409	53	1311	13.75	6809	71.43
15	464	71	1509	15.83	8318	87.26
16	550	125	1214	12.74	9532	100.00

Table 16–18. Grade 4 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	127	27	0.28	27	0.28
1	144	75	211	2.21	238	2.50
2	208	59	533	5.59	771	8.09
3	253	53	963	10.10	1734	18.19
4	293	51	1374	14.41	3108	32.61
5	333	52	1677	17.59	4785	50.20
6	377	58	1919	20.13	6704	70.33
7	439	74	1843	19.33	8547	89.67
8	530	126	985	10.33	9532	100.00

Table 16–19. Grade 4 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	38	0.40	38	0.40
1	106	70	144	1.51	182	1.91
2	159	52	273	2.86	455	4.77
3	194	45	389	4.08	844	8.85
4	222	41	509	5.34	1353	14.19
5	246	39	489	5.13	1842	19.32
6	268	38	519	5.44	2361	24.77
7	290	39	598	6.27	2959	31.04
8	313	40	749	7.86	3708	38.90
9	338	42	865	9.07	4573	47.98
10	366	46	1082	11.35	5655	59.33
11	402	53	1320	13.85	6975	73.17
12	456	71	1438	15.09	8413	88.26
13	543	124	1119	11.74	9532	100.00

Table 16–20. Grade 4 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	127	143	1.50	143	1.50
1	160	75	415	4.35	558	5.85
2	223	57	813	8.53	1371	14.38
3	262	46	1017	10.67	2388	25.05
4	289	41	1057	11.09	3445	36.14
5	313	40	931	9.77	4376	45.91
6	338	43	1019	10.69	5395	56.60
7	373	54	1497	15.70	6892	72.30
8	434	77	1953	20.49	8845	92.79
9	531	129	687	7.21	9532	100.00

Table 16–21. Grade 4 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	128	32	0.34	32	0.34
1	148	77	193	2.02	225	2.36
2	214	60	551	5.78	776	8.14
3	262	54	1129	11.84	1905	19.99
4	303	52	1672	17.54	3577	37.53
5	343	53	1945	20.40	5522	57.93
6	388	58	1882	19.74	7404	77.68
7	449	74	1434	15.04	8838	92.72
8	540	126	694	7.28	9532	100.00

Table 16–22. Grade 4 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	126	41	0.43	41	0.43
1	144	73	192	2.01	233	2.44
2	203	56	435	4.56	668	7.01
3	244	49	695	7.29	1363	14.30
4	277	46	1005	10.54	2368	24.84
5	308	44	1240	13.01	3608	37.85
6	337	45	1368	14.35	4976	52.20
7	368	47	1559	16.36	6535	68.56
8	405	53	1356	14.23	7891	82.78
9	460	71	1002	10.51	8893	93.30
10	546	124	639	6.70	9532	100.00

Table 16–23. Grade 4 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	118	0	0.00	0	0.00
1	100	65	1	0.01	1	0.01
2	100	47	3	0.03	4	0.04
3	110	39	3	0.03	7	0.07
4	130	34	1	0.01	8	0.08
5	146	31	2	0.02	10	0.10
6	160	28	6	0.06	16	0.17
7	172	27	8	0.08	24	0.25
8	182	25	12	0.13	36	0.38
9	192	24	17	0.18	53	0.56
10	201	23	41	0.43	94	0.99
11	209	22	53	0.56	147	1.54
12	217	22	64	0.67	211	2.21
13	224	21	84	0.88	295	3.10
14	231	21	90	0.94	385	4.04
15	237	20	98	1.03	483	5.07
16	243	20	119	1.25	602	6.32
17	249	20	119	1.25	721	7.57
18	255	19	142	1.49	863	9.06
19	261	19	120	1.26	983	10.32
20	267	19	138	1.45	1121	11.76
21	272	19	135	1.42	1256	13.18
22	277	18	169	1.77	1425	14.95
23	283	18	145	1.52	1570	16.48
24	288	18	154	1.62	1724	18.09
25	293	18	182	1.91	1906	20.00

Table 16–23 (continued). Grade 4 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
26	298	18	192	2.01	2098	22.02
27	303	18	165	1.73	2263	23.75
28	308	18	202	2.12	2465	25.87
29	313	18	162	1.70	2627	27.57
30	318	18	172	1.81	2799	29.37
31	323	18	166	1.74	2965	31.12
32	328	18	178	1.87	3143	32.98
33	333	18	231	2.42	3374	35.41
34	338	18	181	1.90	3555	37.31
35	343	18	198	2.08	3753	39.39
36	348	18	219	2.30	3972	41.68
37	354	18	220	2.31	4192	43.99
38	359	19	258	2.71	4450	46.70
39	364	19	227	2.38	4677	49.08
40	370	19	261	2.74	4938	51.82
41	375	19	263	2.76	5201	54.58
42	381	19	282	2.96	5483	57.54
43	387	20	295	3.10	5778	60.64
44	393	20	295	3.10	6073	63.73
45	400	20	296	3.11	6369	66.84
46	406	21	308	3.23	6677	70.07
47	413	21	297	3.12	6974	73.19
48	421	22	307	3.22	7281	76.41
49	428	23	344	3.61	7625	80.02
50	437	23	297	3.12	7922	83.14
51	446	24	300	3.15	8222	86.28
52	455	26	295	3.10	8517	89.38
53	466	27	281	2.95	8798	92.33
54	478	29	227	2.38	9025	94.71
55	492	31	198	2.08	9223	96.79
56	509	34	152	1.60	9375	98.38
57	530	39	91	0.95	9466	99.34
58	558	47	42	0.44	9508	99.78
59	600	65	18	0.19	9526	99.97
60	600	118	3	0.03	9529	100.00

Table 16–24. Grade 4 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	119	19	0.20	19	0.20
1	129	67	85	0.89	104	1.09
2	181	50	187	1.96	291	3.05
3	215	44	305	3.20	596	6.25
4	242	40	460	4.83	1056	11.08
5	265	38	492	5.16	1548	16.25
6	288	38	644	6.76	2192	23.00
7	310	38	706	7.41	2898	30.41
8	332	39	819	8.59	3717	39.01
9	357	41	997	10.46	4714	49.47
10	384	44	1145	12.02	5859	61.49
11	419	51	1263	13.25	7122	74.74
12	472	68	1452	15.24	8574	89.98
13	554	119	955	10.02	9529	100.00

Table 16–25. Grade 4 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	118	3	0.03	3	0.03
1	100	66	2	0.02	5	0.05
2	117	48	4	0.04	9	0.09
3	146	40	12	0.13	21	0.22
4	168	35	22	0.23	43	0.45
5	186	32	44	0.46	87	0.91
6	202	30	81	0.85	168	1.76
7	215	29	130	1.36	298	3.13
8	228	28	164	1.72	462	4.85
9	239	27	186	1.95	648	6.80
10	250	26	229	2.40	877	9.20
11	260	25	251	2.63	1128	11.84
12	270	25	242	2.54	1370	14.38
13	280	25	292	3.06	1662	17.44
14	289	24	330	3.46	1992	20.90
15	298	24	318	3.34	2310	24.24
16	307	24	325	3.41	2635	27.65
17	316	24	359	3.77	2994	31.42
18	326	24	366	3.84	3360	35.26
19	335	25	385	4.04	3745	39.30
20	345	25	376	3.95	4121	43.25
21	355	25	421	4.42	4542	47.67
22	365	26	480	5.04	5022	52.70
23	376	27	496	5.21	5518	57.91
24	387	28	532	5.58	6050	63.49
25	400	29	554	5.81	6604	69.30

Table 16–25 (continued). Grade 4 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
26	413	30	558	5.86	7162	75.16
27	429	33	578	6.07	7740	81.23
28	447	36	559	5.87	8299	87.09
29	469	40	467	4.90	8766	91.99
30	498	48	400	4.20	9166	96.19
31	546	66	266	2.79	9432	98.98
32	600	118	97	1.02	9529	100.00

Table 16–26. Grade 4 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	67	0.70	67	0.70
1	166	70	231	2.42	298	3.13
2	222	53	446	4.68	744	7.81
3	259	45	593	6.22	1337	14.03
4	287	41	682	7.16	2019	21.19
5	312	38	698	7.33	2717	28.51
6	334	37	725	7.61	3442	36.12
7	354	36	740	7.77	4182	43.89
8	374	36	769	8.07	4951	51.96
9	395	37	842	8.84	5793	60.79
10	416	38	972	10.20	6765	70.99
11	440	40	1007	10.57	7772	81.56
12	467	44	833	8.74	8605	90.30
13	502	51	565	5.93	9170	96.23
14	555	68	298	3.13	9468	99.36
15	600	119	61	0.64	9529	100.00

Table 16–27. Grade 4 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	135	0	0.00	0	0.00
1	100	76	1	0.01	1	0.01
2	100	55	0	0.00	1	0.01
3	100	46	2	0.02	3	0.03
4	100	40	1	0.01	4	0.04
5	113	36	1	0.01	5	0.05
6	129	34	2	0.02	7	0.07
7	144	32	4	0.04	11	0.12
8	157	30	11	0.12	22	0.23
9	168	29	16	0.17	38	0.40
10	179	28	25	0.26	63	0.66
11	189	27	46	0.48	109	1.15

Table 16–27 (continued). Grade 4 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
12	198	26	36	0.38	145	1.52
13	207	25	63	0.66	208	2.19
14	215	24	76	0.80	284	2.98
15	223	24	98	1.03	382	4.01
16	231	23	110	1.16	492	5.17
17	238	23	121	1.27	613	6.44
18	246	23	118	1.24	731	7.68
19	253	22	158	1.66	889	9.34
20	259	22	159	1.67	1048	11.01
21	266	22	155	1.63	1203	12.64
22	272	22	172	1.81	1375	14.45
23	279	22	154	1.62	1529	16.07
24	285	21	168	1.77	1697	17.83
25	291	21	178	1.87	1875	19.70
26	297	21	164	1.72	2039	21.43
27	303	21	192	2.02	2231	23.44
28	309	21	185	1.94	2416	25.39
29	315	21	188	1.98	2604	27.36
30	321	21	203	2.13	2807	29.50
31	327	21	207	2.18	3014	31.67
32	333	21	218	2.29	3232	33.96
33	339	21	257	2.70	3489	36.66
34	345	21	242	2.54	3731	39.21
35	352	21	242	2.54	3973	41.75
36	358	22	255	2.68	4228	44.43
37	364	22	289	3.04	4517	47.47
38	371	22	282	2.96	4799	50.43
39	377	22	298	3.13	5097	53.56
40	384	22	323	3.39	5420	56.96
41	391	23	357	3.75	5777	60.71
42	398	23	330	3.47	6107	64.18
43	406	24	359	3.77	6466	67.95
44	413	24	385	4.05	6851	71.99
45	421	25	332	3.49	7183	75.48
46	430	25	349	3.67	7532	79.15
47	439	26	341	3.58	7873	82.73
48	448	27	303	3.18	8176	85.92
49	458	28	286	3.01	8462	88.92
50	469	29	246	2.59	8708	91.51
51	481	30	223	2.34	8931	93.85
52	494	31	190	2.00	9121	95.85
53	508	33	123	1.29	9244	97.14
54	523	35	111	1.17	9355	98.31
55	541	37	82	0.86	9437	99.17
56	561	41	45	0.47	9482	99.64
57	586	46	24	0.25	9506	99.89
58	600	55	8	0.08	9514	99.98
59	600	76	2	0.02	9516	100.00
60	600	136	0	0.00	0	100.00

Table 16–28. Grade 4 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	137	1	0.01	1	0.01
1	100	79	11	0.12	12	0.13
2	100	58	19	0.20	31	0.33
3	131	50	57	0.60	88	0.92
4	160	44	99	1.04	187	1.97
5	185	41	128	1.35	315	3.31
6	207	39	211	2.22	526	5.53
7	226	37	264	2.77	790	8.30
8	244	36	285	2.99	1075	11.30
9	261	35	325	3.42	1400	14.71
10	278	35	343	3.60	1743	18.32
11	294	34	405	4.26	2148	22.57
12	310	34	408	4.29	2556	26.86
13	326	34	486	5.11	3042	31.97
14	342	35	520	5.46	3562	37.43
15	359	36	632	6.64	4194	44.07
16	377	36	745	7.83	4939	51.90
17	396	38	800	8.41	5739	60.31
18	416	39	816	8.58	6555	68.88
19	437	41	854	8.97	7409	77.86
20	461	43	739	7.77	8148	85.62
21	487	45	574	6.03	8722	91.66
22	515	47	396	4.16	9118	95.82
23	547	50	246	2.59	9364	98.40
24	586	58	104	1.09	9468	99.50
25	600	78	40	0.42	9508	99.92
26	600	137	8	0.08	9516	100.00

Table 16–29. Grade 4 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	136	1	0.01	1	0.01
1	100	77	7	0.07	8	0.08
2	118	57	13	0.14	21	0.22
3	154	48	55	0.58	76	0.80
4	183	43	92	0.97	168	1.77
5	206	40	185	1.94	353	3.71
6	227	38	280	2.94	633	6.65
7	245	36	319	3.35	952	10.00
8	262	35	405	4.26	1357	14.26
9	279	34	470	4.94	1827	19.20
10	294	34	458	4.81	2285	24.01
11	310	33	508	5.34	2793	29.35
12	325	33	612	6.43	3405	35.78

Table 16–29 (continued). Grade 4 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
13	340	33	621	6.53	4026	42.31
14	355	34	709	7.45	4735	49.76
15	371	35	776	8.15	5511	57.91
16	388	36	811	8.52	6322	66.44
17	407	38	746	7.84	7068	74.27
18	428	41	734	7.71	7802	81.99
19	454	46	660	6.94	8462	88.92
20	488	55	540	5.67	9002	94.60
21	543	76	358	3.76	9360	98.36
22	600	135	156	1.64	9516	100.00

Table 16–30. Grade 4 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	136	36	0.38	36	0.38
1	151	77	167	1.75	203	2.13
2	210	58	347	3.65	550	5.78
3	249	50	629	6.61	1179	12.39
4	280	46	799	8.40	1978	20.79
5	308	44	936	9.84	2914	30.62
6	334	44	964	10.13	3878	40.75
7	361	45	1046	10.99	4924	51.74
8	389	47	1180	12.40	6104	64.14
9	421	51	1254	13.18	7358	77.32
10	461	59	1091	11.46	8449	88.79
11	522	78	744	7.82	9193	96.61
12	600	137	323	3.39	9516	100.00

GRADE 5

Table 16–31. Grade 5 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	114	0	0.00	0	0.00
1	100	63	0	0.00	0	0.00
2	100	45	2	0.02	2	0.02
3	100	37	2	0.02	4	0.04
4	108	33	0	0.00	4	0.04
5	123	29	2	0.02	6	0.06
6	136	27	1	0.01	7	0.08
7	147	25	4	0.04	11	0.12
8	157	24	7	0.08	18	0.19
9	166	23	9	0.10	27	0.29

Table 16–31 (continued). Grade 5 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
10	174	22	12	0.13	39	0.42
11	182	21	21	0.23	60	0.65
12	188	20	32	0.35	92	0.99
13	195	20	39	0.42	131	1.41
14	201	19	64	0.69	195	2.10
15	207	19	75	0.81	270	2.91
16	213	18	78	0.84	348	3.76
17	218	18	101	1.09	449	4.85
18	223	18	101	1.09	550	5.94
19	228	18	107	1.15	657	7.09
20	233	17	106	1.14	763	8.23
21	238	17	115	1.24	878	9.48
22	242	17	130	1.40	1008	10.88
23	247	17	101	1.09	1109	11.97
24	251	17	133	1.44	1242	13.40
25	256	17	121	1.31	1363	14.71
26	260	17	161	1.74	1524	16.45
27	265	16	152	1.64	1676	18.09
28	269	16	153	1.65	1829	19.74
29	274	16	144	1.55	1973	21.29
30	278	16	161	1.74	2134	23.03
31	282	16	149	1.61	2283	24.64
32	287	16	141	1.52	2424	26.16
33	291	16	157	1.69	2581	27.85
34	295	17	158	1.71	2739	29.56
35	300	17	198	2.14	2937	31.70
36	304	17	173	1.87	3110	33.56
37	309	17	176	1.90	3286	35.46
38	313	17	190	2.05	3476	37.51
39	318	17	212	2.29	3688	39.80
40	322	17	188	2.03	3876	41.83
41	327	17	220	2.37	4096	44.20
42	332	17	214	2.31	4310	46.51
43	337	18	230	2.48	4540	49.00
44	342	18	221	2.39	4761	51.38
45	347	18	240	2.59	5001	53.97
46	353	18	240	2.59	5241	56.56
47	358	19	233	2.51	5474	59.08
48	364	19	242	2.61	5716	61.69
49	370	19	281	3.03	5997	64.72
50	376	20	271	2.92	6268	67.65
51	382	20	262	2.83	6530	70.47
52	389	21	274	2.96	6804	73.43
53	396	22	271	2.92	7075	76.35
54	404	22	264	2.85	7339	79.20
55	413	23	256	2.76	7595	81.97

Table 16–31 (continued). Grade 5 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
56	422	25	272	2.94	7867	84.90
57	432	26	252	2.72	8119	87.62
58	444	28	265	2.86	8384	90.48
59	457	30	217	2.34	8601	92.82
60	473	33	230	2.48	8831	95.31
61	494	38	197	2.13	9028	97.43
62	522	46	136	1.47	9164	98.90
63	568	64	72	0.78	9236	99.68
64	600	114	30	0.32	9266	100.00

Table 16–32. Grade 5 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	26	0.28	26	0.28
1	121	64	86	0.93	112	1.21
2	168	46	183	1.97	295	3.18
3	196	39	236	2.55	531	5.73
4	218	35	330	3.56	861	9.29
5	237	33	437	4.72	1298	14.01
6	254	33	497	5.36	1795	19.37
7	272	33	569	6.14	2364	25.51
8	290	34	708	7.64	3072	33.15
9	310	36	766	8.27	3838	41.42
10	333	39	984	10.62	4822	52.04
11	359	42	1092	11.79	5914	63.82
12	392	49	1171	12.64	7085	76.46
13	444	66	1251	13.50	8336	89.96
14	524	115	930	10.04	9266	100.00

Table 16–33. Grade 5 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	99	1.07	99	1.07
1	155	68	315	3.40	414	4.47
2	212	53	597	6.44	1011	10.91
3	252	47	880	9.50	1891	20.41
4	286	45	1092	11.79	2983	32.19
5	319	45	1228	13.25	4211	45.45
6	353	47	1455	15.70	5666	61.15
7	390	51	1487	16.05	7153	77.20
8	442	65	1288	13.90	8441	91.10
9	519	113	825	8.90	9266	100.00

Table 16–34. Grade 5 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	14	0.15	14	0.15
1	111	66	70	0.76	84	0.91
2	161	49	156	1.68	240	2.59
3	194	42	288	3.11	528	5.70
4	219	38	457	4.93	985	10.63
5	241	36	584	6.30	1569	16.93
6	261	34	643	6.94	2212	23.87
7	280	34	652	7.04	2864	30.91
8	298	34	642	6.93	3506	37.84
9	317	34	664	7.17	4170	45.00
10	336	35	673	7.26	4843	52.27
11	358	38	825	8.90	5668	61.17
12	382	41	902	9.73	6570	70.90
13	414	48	1013	10.93	7583	81.84
14	463	65	994	10.73	8577	92.56
15	542	115	689	7.44	9266	100.00

Table 16–35. Grade 5 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	49	0.53	49	0.53
1	133	68	183	1.97	232	2.50
2	190	53	411	4.44	643	6.94
3	231	49	721	7.78	1364	14.72
4	268	48	1167	12.59	2531	27.31
5	306	50	1555	16.78	4086	44.10
6	350	55	1922	20.74	6008	64.84
7	411	70	1848	19.94	7856	84.78
8	498	118	1410	15.22	9266	100.00

Table 16–36. Grade 5 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	108	116	108	1.17	108	1.17
1	189	67	396	4.27	504	5.44
2	242	51	830	8.96	1334	14.40
3	279	45	983	10.61	2317	25.01
4	309	42	1152	12.43	3469	37.44
5	338	42	1184	12.78	4653	50.22
6	367	44	1168	12.61	5821	62.82
7	400	47	1150	12.41	6971	75.23
8	441	55	1005	10.85	7976	86.08
9	503	72	819	8.84	8795	94.92
10	593	119	471	5.08	9266	100.00

Table 16–37. Grade 5 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	58	0.63	58	0.63
1	122	68	177	1.91	235	2.54
2	178	53	353	3.81	588	6.35
3	217	47	601	6.49	1189	12.83
4	252	46	799	8.62	1988	21.45
5	286	47	1031	11.13	3019	32.58
6	325	52	1514	16.34	4533	48.92
7	379	67	2255	24.34	6788	73.26
8	461	116	2478	26.74	9266	100.00

Table 16–38. Grade 5 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	114	2	0.02	2	0.02
1	100	63	0	0.00	2	0.02
2	100	45	3	0.03	5	0.05
3	127	37	1	0.01	6	0.06
4	146	33	5	0.05	11	0.12
5	162	30	2	0.02	13	0.14
6	175	27	10	0.11	23	0.25
7	186	26	15	0.16	38	0.41
8	196	24	31	0.34	69	0.75
9	205	23	32	0.35	101	1.09
10	214	22	50	0.54	151	1.63
11	221	21	65	0.70	216	2.33
12	229	21	77	0.83	293	3.17
13	235	20	100	1.08	393	4.25
14	242	20	133	1.44	526	5.69
15	248	19	120	1.30	646	6.98
16	254	19	153	1.65	799	8.64
17	260	19	128	1.38	927	10.02
18	265	18	155	1.68	1082	11.70
19	271	18	142	1.53	1224	13.23
20	276	18	137	1.48	1361	14.71
21	281	18	153	1.65	1514	16.37
22	286	18	134	1.45	1648	17.81
23	291	17	148	1.60	1796	19.41
24	296	17	141	1.52	1937	20.94
25	301	17	159	1.72	2096	22.66
26	305	17	137	1.48	2233	24.14
27	310	17	130	1.41	2363	25.54
28	315	17	141	1.52	2504	27.07
29	319	17	156	1.69	2660	28.75
30	324	17	184	1.99	2844	30.74
31	329	17	154	1.66	2998	32.41
32	333	17	206	2.23	3204	34.63
33	338	17	175	1.89	3379	36.53

Table 16–38 (continued). Grade 5 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
34	343	17	173	1.87	3552	38.40
35	348	17	172	1.86	3724	40.26
36	352	17	205	2.22	3929	42.47
37	357	18	193	2.09	4122	44.56
38	362	18	223	2.41	4345	46.97
39	367	18	226	2.44	4571	49.41
40	373	18	242	2.62	4813	52.03
41	378	18	254	2.75	5067	54.77
42	383	19	254	2.75	5321	57.52
43	389	19	258	2.79	5579	60.31
44	395	19	262	2.83	5841	63.14
45	401	19	291	3.15	6132	66.28
46	407	20	263	2.84	6395	69.13
47	414	20	295	3.19	6690	72.32
48	421	21	299	3.23	6989	75.55
49	428	22	286	3.09	7275	78.64
50	436	22	303	3.28	7578	81.92
51	444	23	325	3.51	7903	85.43
52	453	24	279	3.02	8182	88.44
53	463	25	279	3.02	8461	91.46
54	474	27	228	2.46	8689	93.92
55	487	29	230	2.49	8919	96.41
56	502	32	151	1.63	9070	98.04
57	521	37	109	1.18	9179	99.22
58	547	45	52	0.56	9231	99.78
59	591	62	19	0.21	9250	99.99
60	600	113	1	0.01	9251	100.00

Table 16–39. Grade 5 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	18	0.19	18	0.19
1	154	65	68	0.74	86	0.93
2	204	48	165	1.78	251	2.71
3	237	42	321	3.47	572	6.18
4	262	38	475	5.13	1047	11.32
5	284	36	579	6.26	1626	17.58
6	304	35	673	7.27	2299	24.85
7	324	35	755	8.16	3054	33.01
8	343	35	777	8.40	3831	41.41
9	364	36	903	9.76	4734	51.17
10	386	38	999	10.80	5733	61.97
11	411	42	1109	11.99	6842	73.96
12	443	48	1033	11.17	7875	85.13
13	493	65	864	9.34	8739	94.47
14	572	115	512	5.53	9251	100.00

Table 16–40. Grade 5 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	114	7	0.08	7	0.08
1	100	64	10	0.11	17	0.18
2	146	46	28	0.30	45	0.49
3	175	39	63	0.68	108	1.17
4	196	34	111	1.20	219	2.37
5	214	32	157	1.70	376	4.06
6	229	30	223	2.41	599	6.47
7	242	28	256	2.77	855	9.24
8	255	27	279	3.02	1134	12.26
9	266	26	275	2.97	1409	15.23
10	277	26	286	3.09	1695	18.32
11	288	26	288	3.11	1983	21.44
12	298	25	311	3.36	2294	24.80
13	309	25	321	3.47	2615	28.27
14	319	25	366	3.96	2981	32.22
15	329	25	327	3.53	3308	35.76
16	340	26	366	3.96	3674	39.71
17	351	26	476	5.15	4150	44.86
18	362	27	474	5.12	4624	49.98
19	374	28	503	5.44	5127	55.42
20	387	29	553	5.98	5680	61.40
21	401	30	579	6.26	6259	67.66
22	417	32	683	7.38	6942	75.04
23	435	35	729	7.88	7671	82.92
24	458	40	644	6.96	8315	89.88
25	488	47	546	5.90	8861	95.78
26	536	65	313	3.38	9174	99.17
27	600	115	77	0.83	9251	100.00

Table 16–41. Grade 5 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	17	0.18	17	0.18
1	136	65	79	0.85	96	1.04
2	186	49	165	1.78	261	2.82
3	218	41	254	2.75	515	5.57
4	243	37	346	3.74	861	9.31
5	264	35	443	4.79	1304	14.10
6	283	33	443	4.79	1747	18.88
7	300	32	502	5.43	2249	24.31
8	316	31	487	5.26	2736	29.58
9	332	31	533	5.76	3269	35.34
10	348	31	568	6.14	3837	41.48
11	364	32	679	7.34	4516	48.82
12	380	32	713	7.71	5229	56.52
13	397	33	754	8.15	5983	64.67

Table 16–41 (continued). Grade 5 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
14	416	35	768	8.30	6751	72.98
15	437	37	771	8.33	7522	81.31
16	460	40	699	7.56	8221	88.87
17	490	46	570	6.16	8791	95.03
18	536	63	346	3.74	9137	98.77
19	600	113	114	1.23	9251	100.00

Table 16–42. Grade 5 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	1	0.01	1	0.01
1	100	68	0	0.00	1	0.01
2	100	49	2	0.02	3	0.03
3	100	40	3	0.03	6	0.06
4	100	35	3	0.03	9	0.10
5	116	32	1	0.01	10	0.11
6	130	30	3	0.03	13	0.14
7	143	28	4	0.04	17	0.18
8	154	26	4	0.04	21	0.23
9	163	25	4	0.04	25	0.27
10	172	24	18	0.19	43	0.46
11	181	23	27	0.29	70	0.76
12	189	23	33	0.36	103	1.11
13	196	22	40	0.43	143	1.54
14	203	22	56	0.60	199	2.15
15	210	21	73	0.79	272	2.94
16	217	21	93	1.00	365	3.94
17	223	21	76	0.82	441	4.76
18	229	20	105	1.13	546	5.89
19	235	20	100	1.08	646	6.97
20	241	20	106	1.14	752	8.12
21	247	20	104	1.12	856	9.24
22	252	19	116	1.25	972	10.49
23	258	19	132	1.42	1104	11.92
24	263	19	135	1.46	1239	13.37
25	269	19	131	1.41	1370	14.79
26	274	19	139	1.50	1509	16.29
27	280	19	135	1.46	1644	17.74
28	285	19	155	1.67	1799	19.42
29	290	19	144	1.55	1943	20.97
30	295	19	164	1.77	2107	22.74
31	301	19	173	1.87	2280	24.61
32	306	19	179	1.93	2459	26.54
33	311	19	189	2.04	2648	28.58
34	317	19	186	2.01	2834	30.59
35	322	19	224	2.42	3058	33.01

Table 16–42 (continued). Grade 5 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
36	328	20	234	2.53	3292	35.53
37	334	20	229	2.47	3521	38.00
38	339	20	273	2.95	3794	40.95
39	345	20	276	2.98	4070	43.93
40	351	20	301	3.25	4371	47.18
41	358	21	315	3.40	4686	50.58
42	364	21	308	3.32	4994	53.90
43	371	22	302	3.26	5296	57.16
44	378	22	332	3.58	5628	60.74
45	386	23	363	3.92	5991	64.66
46	393	23	353	3.81	6344	68.47
47	402	24	364	3.93	6708	72.40
48	411	25	357	3.85	7065	76.25
49	420	26	349	3.77	7414	80.02
50	430	27	337	3.64	7751	83.66
51	442	28	355	3.83	8106	87.49
52	454	30	286	3.09	8392	90.58
53	468	31	237	2.56	8629	93.14
54	483	34	200	2.16	8829	95.29
55	501	36	177	1.91	9006	97.20
56	522	40	124	1.34	9130	98.54
57	549	45	72	0.78	9202	99.32
58	583	53	38	0.41	9240	99.73
59	600	72	22	0.24	9262	99.97
60	600	126	3	0.03	9265	100.00

Table 16–43. Grade 5 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	4	0.04	4	0.04
1	100	69	4	0.04	8	0.09
2	100	50	4	0.04	12	0.13
3	123	42	9	0.10	21	0.23
4	146	37	21	0.23	42	0.45
5	165	34	41	0.44	83	0.90
6	181	32	63	0.68	146	1.58
7	196	31	95	1.03	241	2.60
8	209	29	133	1.44	374	4.04
9	222	29	150	1.62	524	5.66
10	234	28	169	1.82	693	7.48
11	245	27	216	2.33	909	9.81
12	256	27	228	2.46	1137	12.27
13	266	27	233	2.51	1370	14.79
14	277	26	273	2.95	1643	17.73
15	287	26	319	3.44	1962	21.18

Table 16–43 (continued). Grade 5 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
16	297	26	313	3.38	2275	24.55
17	307	26	332	3.58	2607	28.14
18	318	27	380	4.10	2987	32.24
19	328	27	405	4.37	3392	36.61
20	340	28	482	5.20	3874	41.81
21	351	28	552	5.96	4426	47.77
22	364	29	559	6.03	4985	53.80
23	377	31	554	5.98	5539	59.78
24	391	32	671	7.24	6210	67.03
25	407	33	624	6.74	6834	73.76
26	425	35	648	6.99	7482	80.76
27	444	38	562	6.07	8044	86.82
28	467	40	453	4.89	8497	91.71
29	493	44	343	3.70	8840	95.41
30	524	48	208	2.25	9048	97.66
31	563	56	142	1.53	9190	99.19
32	600	74	56	0.60	9246	99.79
33	600	127	19	0.21	9265	100.00

Table 16–44. Grade 5 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	125	10	0.11	10	0.11
1	100	71	46	0.50	56	0.60
2	151	53	98	1.06	154	1.66
3	186	45	214	2.31	368	3.97
4	214	42	278	3.00	646	6.97
5	238	39	418	4.51	1064	11.48
6	261	38	473	5.11	1537	16.59
7	282	38	601	6.49	2138	23.08
8	304	38	789	8.52	2927	31.59
9	326	40	809	8.73	3736	40.32
10	350	42	1088	11.74	4824	52.07
11	379	46	1289	13.91	6113	65.98
12	414	53	1338	14.44	7451	80.42
13	469	71	1179	12.73	8630	93.15
14	555	125	635	6.85	9265	100.00

Table 16–45. Grade 5 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	125	22	0.24	22	0.24
1	118	71	72	0.78	94	1.01
2	173	53	198	2.14	292	3.15
3	208	46	322	3.48	614	6.63
4	236	42	455	4.91	1069	11.54
5	260	40	565	6.10	1634	17.64
6	283	39	676	7.30	2310	24.93
7	306	39	734	7.92	3044	32.85
8	328	40	868	9.37	3912	42.22
9	353	42	1047	11.30	4959	53.52
10	381	45	1173	12.66	6132	66.18
11	416	53	1193	12.88	7325	79.06
12	470	71	1198	12.93	8523	91.99
13	556	125	742	8.01	9265	100.00

GRADE 6

Table 16–46. Grade 6 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	0	0.00	0	0.00
1	100	64	0	0.00	0	0.00
2	100	46	0	0.00	0	0.00
3	100	38	0	0.00	0	0.00
4	106	33	1	0.01	1	0.01
5	122	30	0	0.00	1	0.01
6	135	28	2	0.02	3	0.03
7	147	26	0	0.00	3	0.03
8	157	25	6	0.07	9	0.10
9	166	24	13	0.14	22	0.24
10	174	23	10	0.11	32	0.35
11	182	22	32	0.35	64	0.69
12	189	21	32	0.35	96	1.04
13	196	21	48	0.52	144	1.56
14	203	20	50	0.54	194	2.10
15	209	20	79	0.86	273	2.96
16	215	19	80	0.87	353	3.83
17	221	19	104	1.13	457	4.96
18	226	19	96	1.04	553	6.00
19	232	18	115	1.25	668	7.25
20	237	18	135	1.46	803	8.71
21	242	18	136	1.48	939	10.19
22	247	18	124	1.35	1063	11.53
23	252	17	127	1.38	1190	12.91
24	257	17	153	1.66	1343	14.57

Table 16–46 (continued). Grade 6 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
25	261	17	152	1.65	1495	16.22
26	266	17	152	1.65	1647	17.87
27	271	17	154	1.67	1801	19.54
28	275	17	152	1.65	1953	21.19
29	280	17	175	1.90	2128	23.09
30	284	17	145	1.57	2273	24.66
31	289	17	161	1.75	2434	26.41
32	293	17	193	2.09	2627	28.50
33	298	17	200	2.17	2827	30.67
34	302	17	183	1.99	3010	32.66
35	307	17	191	2.07	3201	34.73
36	311	17	190	2.06	3391	36.79
37	316	17	188	2.04	3579	38.83
38	320	17	222	2.41	3801	41.24
39	325	17	210	2.28	4011	43.52
40	330	17	226	2.45	4237	45.97
41	334	17	211	2.29	4448	48.26
42	339	18	242	2.63	4690	50.88
43	344	18	190	2.06	4880	52.95
44	349	18	231	2.51	5111	55.45
45	354	18	236	2.56	5347	58.01
46	360	18	260	2.82	5607	60.83
47	365	19	237	2.57	5844	63.40
48	371	19	245	2.66	6089	66.06
49	377	19	243	2.64	6332	68.70
50	383	20	219	2.38	6551	71.08
51	389	20	250	2.71	6801	73.79
52	396	21	256	2.78	7057	76.57
53	403	22	244	2.65	7301	79.21
54	411	22	254	2.76	7555	81.97
55	419	23	243	2.64	7798	84.60
56	428	24	240	2.60	8038	87.21
57	438	26	208	2.26	8246	89.47
58	449	27	229	2.48	8475	91.95
59	462	30	194	2.10	8669	94.05
60	477	33	176	1.91	8845	95.96
61	496	37	164	1.78	9009	97.74
62	523	45	111	1.20	9120	98.95
63	568	63	66	0.72	9186	99.66
64	600	115	31	0.34	9217	100.00

Table 16–47. Grade 6 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	64	0.69	64	0.69
1	129	72	254	2.76	318	3.45
2	193	57	506	5.49	824	8.94
3	237	50	780	8.46	1604	17.40
4	274	46	1002	10.87	2606	28.27
5	306	44	1107	12.01	3713	40.28
6	336	43	1120	12.15	4833	52.44
7	365	44	1066	11.57	5899	64.00
8	397	46	1066	11.57	6965	75.57
9	433	51	991	10.75	7956	86.32
10	484	66	751	8.15	8707	94.47
11	562	115	510	5.53	9217	100.00

Table 16–48. Grade 6 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	26	0.28	26	0.28
1	132	66	138	1.50	164	1.78
2	183	50	254	2.76	418	4.54
3	216	43	437	4.74	855	9.28
4	243	40	590	6.40	1445	15.68
5	267	38	716	7.77	2161	23.45
6	290	38	807	8.76	2968	32.20
7	312	38	931	10.10	3899	42.30
8	336	40	1044	11.33	4943	53.63
9	363	43	1164	12.63	6107	66.26
10	397	50	1168	12.67	7275	78.93
11	448	66	1106	12.00	8381	90.93
12	528	117	836	9.07	9217	100.00

Table 16–49. Grade 6 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	44	0.48	44	0.48
1	126	67	149	1.62	193	2.09
2	178	50	317	3.44	510	5.53
3	212	44	480	5.21	990	10.74
4	240	41	606	6.57	1596	17.32
5	265	39	738	8.01	2334	25.32
6	290	39	840	9.11	3174	34.44
7	314	40	1008	10.94	4182	45.37
8	342	43	1195	12.97	5377	58.34
9	375	49	1349	14.64	6726	72.97
10	425	66	1410	15.30	8136	88.27
11	505	117	1081	11.73	9217	100.00

Table 16–50. Grade 6 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	118	22	0.24	22	0.24
1	121	68	107	1.16	129	1.40
2	176	52	287	3.11	416	4.51
3	213	46	511	5.54	927	10.06
4	244	43	715	7.76	1642	17.81
5	273	42	923	10.01	2565	27.83
6	302	43	1138	12.35	3703	40.18
7	333	46	1261	13.68	4964	53.86
8	371	52	1385	15.03	6349	68.88
9	425	68	1512	16.40	7861	85.29
10	508	118	1356	14.71	9217	100.00

Table 16–51. Grade 6 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	14	0.15	14	0.15
1	127	68	81	0.88	95	1.03
2	181	51	245	2.66	340	3.69
3	217	45	456	4.95	796	8.64
4	246	42	646	7.01	1442	15.65
5	273	41	806	8.74	2248	24.39
6	299	41	994	10.78	3242	35.17
7	326	42	1117	12.12	4359	47.29
8	356	45	1256	13.63	5615	60.92
9	393	51	1351	14.66	6966	75.58
10	446	68	1302	14.13	8268	89.70
11	529	118	949	10.30	9217	100.00

Table 16–52. Grade 6 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	119	124	1.35	124	1.35
1	176	71	427	4.63	551	5.98
2	236	55	846	9.18	1397	15.16
3	279	49	1170	12.69	2567	27.85
4	315	46	1293	14.03	3860	41.88
5	348	45	1333	14.46	5193	56.34
6	381	47	1216	13.19	6409	69.53
7	419	52	1141	12.38	7550	81.91
8	472	67	1068	11.59	8618	93.50
9	553	117	599	6.50	9217	100.00

Table 16–53. Grade 6 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	114	0	0.00	0	0.00
1	100	63	1	0.01	1	0.01
2	100	45	0	0.00	1	0.01
3	104	37	2	0.02	3	0.03
4	123	33	3	0.03	6	0.06
5	139	30	1	0.01	7	0.08
6	152	28	4	0.04	11	0.12
7	164	26	8	0.09	19	0.21
8	174	25	7	0.08	26	0.28
9	183	23	10	0.11	36	0.39
10	192	23	26	0.28	62	0.67
11	200	22	42	0.45	104	1.13
12	207	21	55	0.60	159	1.72
13	214	21	69	0.75	228	2.47
14	221	20	80	0.87	308	3.34
15	227	20	93	1.01	401	4.34
16	233	19	101	1.09	502	5.44
17	239	19	107	1.16	609	6.60
18	245	19	112	1.21	721	7.81
19	251	18	108	1.17	829	8.98
20	256	18	134	1.45	963	10.43
21	261	18	129	1.40	1092	11.83
22	267	18	111	1.20	1203	13.03
23	272	18	116	1.26	1319	14.29
24	277	18	149	1.61	1468	15.90
25	282	18	145	1.57	1613	17.47
26	287	18	161	1.74	1774	19.22
27	292	17	160	1.73	1934	20.95
28	297	17	152	1.65	2086	22.60
29	302	17	171	1.85	2257	24.45
30	306	17	174	1.88	2431	26.34
31	311	17	185	2.00	2616	28.34
32	316	17	193	2.09	2809	30.43
33	321	17	178	1.93	2987	32.36
34	326	17	186	2.01	3173	34.37
35	331	18	211	2.29	3384	36.66
36	336	18	217	2.35	3601	39.01
37	341	18	224	2.43	3825	41.44
38	346	18	233	2.52	4058	43.96
39	351	18	224	2.43	4282	46.39
40	357	18	267	2.89	4549	49.28
41	362	18	257	2.78	4806	52.06
42	368	19	268	2.90	5074	54.97
43	373	19	288	3.12	5362	58.09
44	379	19	311	3.37	5673	61.46
45	385	20	315	3.41	5988	64.87
46	392	20	317	3.43	6305	68.30
47	399	21	272	2.95	6577	71.25

Table 16–53 (continued). Grade 6 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
48	406	21	337	3.65	6914	74.90
49	413	22	292	3.16	7206	78.06
50	421	23	288	3.12	7494	81.18
51	430	24	303	3.28	7797	84.47
52	440	25	277	3.00	8074	87.47
53	450	26	248	2.69	8322	90.15
54	462	28	195	2.11	8517	92.27
55	475	30	223	2.42	8740	94.68
56	491	33	152	1.65	8892	96.33
57	511	37	147	1.59	9039	97.92
58	538	45	115	1.25	9154	99.17
59	582	63	59	0.64	9213	99.81
60	600	113	18	0.19	9231	100.00

Table 16–54. Grade 6 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	40	0.43	40	0.43
1	160	67	155	1.68	195	2.11
2	213	51	403	4.37	598	6.48
3	250	45	591	6.40	1189	12.88
4	280	42	764	8.28	1953	21.16
5	308	41	980	10.62	2933	31.77
6	334	40	1164	12.61	4097	44.38
7	361	42	1292	14.00	5389	58.38
8	390	44	1274	13.80	6663	72.18
9	426	50	1157	12.53	7820	84.71
10	478	66	881	9.54	8701	94.26
11	559	115	530	5.74	9231	100.00

Table 16–55. Grade 6 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	114	1	0.01	1	0.01
1	100	64	1	0.01	2	0.02
2	101	46	4	0.04	6	0.06
3	130	39	9	0.10	15	0.16
4	151	34	12	0.13	27	0.29
5	168	31	39	0.42	66	0.71
6	183	29	41	0.44	107	1.16
7	196	28	79	0.86	186	2.01
8	208	27	108	1.17	294	3.18
9	219	26	145	1.57	439	4.76

Table 16–55 (continued). Grade 6 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
10	229	25	156	1.69	595	6.45
11	239	24	167	1.81	762	8.25
12	248	24	187	2.03	949	10.28
13	257	24	220	2.38	1169	12.66
14	266	23	225	2.44	1394	15.10
15	275	23	243	2.63	1637	17.73
16	284	23	259	2.81	1896	20.54
17	292	23	283	3.07	2179	23.61
18	301	23	278	3.01	2457	26.62
19	310	23	324	3.51	2781	30.13
20	318	23	332	3.60	3113	33.72
21	327	24	349	3.78	3462	37.50
22	336	24	385	4.17	3847	41.67
23	346	24	390	4.22	4237	45.90
24	356	25	465	5.04	4702	50.94
25	366	26	413	4.47	5115	55.41
26	377	26	447	4.84	5562	60.25
27	389	28	546	5.91	6108	66.17
28	401	29	548	5.94	6656	72.10
29	416	31	545	5.90	7201	78.01
30	433	34	551	5.97	7752	83.98
31	454	38	503	5.45	8255	89.43
32	483	46	443	4.80	8698	94.23
33	529	64	364	3.94	9062	98.17
34	600	114	169	1.83	9231	100.00

Table 16–56. Grade 6 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	115	31	0.34	31	0.34
1	149	65	123	1.33	154	1.67
2	199	49	240	2.60	394	4.27
3	231	42	342	3.70	736	7.97
4	257	38	485	5.25	1221	13.23
5	280	37	532	5.76	1753	18.99
6	301	35	622	6.74	2375	25.73
7	321	35	688	7.45	3063	33.18
8	340	35	802	8.69	3865	41.87
9	361	36	902	9.77	4767	51.64
10	382	37	1031	11.17	5798	62.81
11	406	40	1051	11.39	6849	74.20
12	435	45	922	9.99	7771	84.18
13	472	51	753	8.16	8524	92.34
14	524	66	469	5.08	8993	97.42
15	600	114	238	2.58	9231	100.00

Table 16–57. Grade 6 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	135	0	0.00	0	0.00
1	100	74	0	0.00	0	0.00
2	100	53	1	0.01	1	0.01
3	100	44	1	0.01	2	0.02
4	100	38	2	0.02	4	0.04
5	100	35	0	0.00	4	0.04
6	112	32	2	0.02	6	0.07
7	125	30	5	0.05	11	0.12
8	137	29	3	0.03	14	0.15
9	148	27	9	0.10	23	0.25
10	157	26	12	0.13	35	0.38
11	166	25	18	0.20	53	0.57
12	175	25	25	0.27	78	0.85
13	183	24	32	0.35	110	1.19
14	191	24	38	0.41	148	1.60
15	198	23	56	0.61	204	2.21
16	205	23	104	1.13	308	3.34
17	212	22	82	0.89	390	4.23
18	219	22	83	0.90	473	5.13
19	226	22	104	1.13	577	6.25
20	232	22	124	1.34	701	7.60
21	238	21	131	1.42	832	9.02
22	244	21	133	1.44	965	10.46
23	251	21	154	1.67	1119	12.12
24	257	21	151	1.64	1270	13.76
25	262	21	153	1.66	1423	15.42
26	268	21	146	1.58	1569	17.00
27	274	21	160	1.73	1729	18.73
28	280	21	180	1.95	1909	20.68
29	286	21	179	1.94	2088	22.62
30	292	21	179	1.94	2267	24.56
31	298	21	171	1.85	2438	26.42
32	303	21	183	1.98	2621	28.40
33	309	21	208	2.25	2829	30.65
34	315	21	200	2.17	3029	32.82
35	321	21	230	2.49	3259	35.31
36	327	21	238	2.58	3497	37.89
37	334	21	263	2.85	3760	40.74
38	340	22	257	2.78	4017	43.53
39	346	22	237	2.57	4254	46.09
40	353	22	286	3.10	4540	49.19
41	360	22	296	3.21	4836	52.40
42	366	23	289	3.13	5125	55.53
43	374	23	305	3.30	5430	58.84
44	381	24	300	3.25	5730	62.09
45	389	24	334	3.62	6064	65.71
46	397	25	314	3.40	6378	69.11
47	405	25	375	4.06	6753	73.17
48	414	26	376	4.07	7129	77.25
49	424	27	308	3.34	7437	80.58

Table 16–57 (continued). Grade 6 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
50	434	28	318	3.45	7755	84.03
51	445	29	332	3.60	8087	87.63
52	457	31	287	3.11	8374	90.74
53	471	32	247	2.68	8621	93.41
54	486	34	214	2.32	8835	95.73
55	503	37	151	1.64	8986	97.37
56	524	41	118	1.28	9104	98.65
57	549	46	70	0.76	9174	99.40
58	583	55	40	0.43	9214	99.84
59	600	76	13	0.14	9227	99.98
60	600	136	2	0.02	9229	100.00

Table 16–58. Grade 6 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	135	1	0.01	1	0.01
1	100	75	5	0.05	6	0.07
2	100	54	20	0.22	26	0.28
3	113	46	25	0.27	51	0.55
4	139	41	33	0.36	84	0.91
5	160	38	57	0.62	141	1.53
6	179	37	93	1.01	234	2.54
7	196	35	119	1.29	353	3.82
8	213	35	175	1.90	528	5.72
9	229	34	225	2.44	753	8.16
10	245	34	278	3.01	1031	11.17
11	261	34	316	3.42	1347	14.60
12	277	34	401	4.34	1748	18.94
13	293	35	457	4.95	2205	23.89
14	310	35	533	5.78	2738	29.67
15	327	36	670	7.26	3408	36.93
16	346	37	731	7.92	4139	44.85
17	365	39	812	8.80	4951	53.65
18	386	40	859	9.31	5810	62.95
19	409	42	922	9.99	6732	72.94
20	435	45	847	9.18	7579	82.12
21	464	48	697	7.55	8276	89.67
22	497	52	542	5.87	8818	95.55
23	539	60	272	2.95	9090	98.49
24	600	79	123	1.33	9213	99.83
25	600	137	16	0.17	9229	100.00

Table 16–59. Grade 6 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	136	4	0.04	4	0.04
1	100	77	22	0.24	26	0.28
2	148	56	85	0.92	111	1.20
3	184	48	191	2.07	302	3.27
4	212	43	329	3.56	631	6.84
5	236	41	448	4.85	1079	11.69
6	258	39	577	6.25	1656	17.94
7	278	38	604	6.54	2260	24.49
8	297	37	655	7.10	2915	31.59
9	316	37	745	8.07	3660	39.66
10	334	37	733	7.94	4393	47.60
11	354	38	758	8.21	5151	55.81
12	375	40	827	8.96	5978	64.77
13	398	43	810	8.78	6788	73.55
14	425	47	773	8.38	7561	81.93
15	460	56	781	8.46	8342	90.39
16	516	76	552	5.98	8894	96.37
17	600	136	335	3.63	9229	100.00

Table 16–60. Grade 6 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	136	5	0.05	5	0.05
1	100	76	25	0.27	30	0.33
2	125	56	79	0.86	109	1.18
3	161	47	173	1.87	282	3.06
4	188	43	239	2.59	521	5.65
5	211	40	320	3.47	841	9.11
6	231	38	401	4.34	1242	13.46
7	250	37	409	4.43	1651	17.89
8	268	36	456	4.94	2107	22.83
9	285	36	480	5.20	2587	28.03
10	303	36	533	5.78	3120	33.81
11	321	37	596	6.46	3716	40.26
12	339	38	675	7.31	4391	47.58
13	359	40	759	8.22	5150	55.80
14	382	42	894	9.69	6044	65.49
15	409	47	1027	11.13	7071	76.62
16	445	56	1006	10.90	8077	87.52
17	501	76	782	8.47	8859	95.99
18	593	136	370	4.01	9229	100.00

GRADE 7

Table 16–61. Grade 7 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	118	0	0.00	0	0.00
1	100	65	0	0.00	0	0.00
2	100	47	2	0.02	2	0.02
3	100	39	0	0.00	2	0.02
4	106	34	0	0.00	2	0.02
5	122	31	1	0.01	3	0.03
6	136	28	2	0.02	5	0.05
7	148	27	4	0.04	9	0.10
8	158	25	6	0.06	15	0.16
9	168	24	16	0.17	31	0.33
10	176	23	28	0.30	59	0.64
11	184	22	37	0.40	96	1.04
12	192	22	54	0.58	150	1.62
13	199	21	77	0.83	227	2.45
14	206	20	76	0.82	303	3.27
15	212	20	94	1.01	397	4.28
16	218	20	121	1.30	518	5.59
17	224	19	113	1.22	631	6.80
18	230	19	129	1.39	760	8.19
19	235	19	144	1.55	904	9.75
20	241	18	160	1.73	1064	11.47
21	246	18	125	1.35	1189	12.82
22	251	18	165	1.78	1354	14.60
23	256	18	174	1.88	1528	16.48
24	261	18	192	2.07	1720	18.55
25	266	17	148	1.60	1868	20.14
26	270	17	168	1.81	2036	21.95
27	275	17	183	1.97	2219	23.93
28	280	17	178	1.92	2397	25.85
29	284	17	179	1.93	2576	27.78
30	289	17	199	2.15	2775	29.92
31	293	17	183	1.97	2958	31.90
32	298	17	178	1.92	3136	33.81
33	302	17	178	1.92	3314	35.73
34	307	17	193	2.08	3507	37.82
35	311	17	227	2.45	3734	40.26
36	316	17	224	2.42	3958	42.68
37	321	17	208	2.24	4166	44.92
38	325	17	221	2.38	4387	47.30
39	330	18	215	2.32	4602	49.62
40	335	18	245	2.64	4847	52.26
41	340	18	207	2.23	5054	54.50
42	345	18	207	2.23	5261	56.73
43	350	18	235	2.53	5496	59.26
44	355	19	226	2.44	5722	61.70
45	361	19	253	2.73	5975	64.43

Table 16–61 (continued). Grade 7 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
46	366	19	260	2.80	6235	67.23
47	372	19	245	2.64	6480	69.87
48	378	20	233	2.51	6713	72.39
49	384	20	259	2.79	6972	75.18
50	391	21	236	2.54	7208	77.72
51	398	22	256	2.76	7464	80.48
52	406	22	231	2.49	7695	82.97
53	414	23	232	2.50	7927	85.48
54	422	24	263	2.84	8190	88.31
55	431	25	211	2.28	8401	90.59
56	441	26	222	2.39	8623	92.98
57	453	27	183	1.97	8806	94.95
58	465	29	147	1.59	8953	96.54
59	479	31	129	1.39	9082	97.93
60	495	34	82	0.88	9164	98.81
61	515	38	53	0.57	9217	99.39
62	542	45	40	0.43	9257	99.82
63	585	63	10	0.11	9267	99.92
64	600	116	7	0.08	9274	100.00

Table 16–62. Grade 7 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	122	205	2.21	205	2.21
1	161	73	565	6.09	770	8.30
2	224	57	1041	11.22	1811	19.53
3	269	51	1223	13.19	3034	32.72
4	307	48	1329	14.33	4363	47.05
5	343	48	1465	15.80	5828	62.84
6	381	50	1437	15.49	7265	78.34
7	424	56	1082	11.67	8347	90.00
8	484	71	717	7.73	9064	97.74
9	571	121	210	2.26	9274	100.00

Table 16–63. Grade 7 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	21	0.23	21	0.23
1	124	70	106	1.14	127	1.37
2	181	53	269	2.90	396	4.27
3	218	46	427	4.60	823	8.87
4	247	42	704	7.59	1527	16.47
5	273	39	870	9.38	2397	25.85

Table 16–63 (continued). Grade 7 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
6	296	38	954	10.29	3351	36.13
7	318	38	1081	11.66	4432	47.79
8	341	39	1187	12.80	5619	60.59
9	367	42	1188	12.81	6807	73.40
10	399	49	1093	11.79	7900	85.18
11	449	67	850	9.17	8750	94.35
12	530	118	524	5.65	9274	100.00

Table 16–64. Grade 7 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	116	1.25	116	1.25
1	136	70	356	3.84	472	5.09
2	194	54	713	7.69	1185	12.78
3	234	49	939	10.13	2124	22.90
4	270	47	1078	11.62	3202	34.53
5	306	49	1105	11.92	4307	46.44
6	346	54	1343	14.48	5650	60.92
7	403	70	1681	18.13	7331	79.05
8	488	120	1943	20.95	9274	100.00

Table 16–65. Grade 7 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	42	0.45	42	0.45
1	132	69	149	1.61	191	2.06
2	185	51	331	3.57	522	5.63
3	220	44	531	5.73	1053	11.35
4	247	40	683	7.36	1736	18.72
5	271	38	751	8.10	2487	26.82
6	292	37	859	9.26	3346	36.08
7	314	37	903	9.74	4249	45.82
8	336	38	1031	11.12	5280	56.93
9	360	41	1058	11.41	6338	68.34
10	389	46	1008	10.87	7346	79.21
11	427	52	868	9.36	8214	88.57
12	472	56	662	7.14	8876	95.71
13	526	64	243	2.62	9119	98.33
14	595	108	155	1.67	9274	100.00

Table 16–66. Grade 7 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	17	0.18	17	0.18
1	118	70	103	1.11	120	1.29
2	175	53	234	2.52	354	3.82
3	214	47	476	5.13	830	8.95
4	245	43	707	7.62	1537	16.57
5	272	41	815	8.79	2352	25.36
6	298	40	935	10.08	3287	35.44
7	323	40	923	9.95	4210	45.40
8	349	42	1056	11.39	5266	56.78
9	378	45	1125	12.13	6391	68.91
10	414	51	1192	12.85	7583	81.77
11	467	68	1060	11.43	8643	93.20
12	550	119	631	6.80	9274	100.00

Table 16–67. Grade 7 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	40	0.43	40	0.43
1	137	70	235	2.53	275	2.97
2	193	54	520	5.61	795	8.57
3	233	48	791	8.53	1586	17.10
4	268	46	1109	11.96	2695	29.06
5	301	47	1239	13.36	3934	42.42
6	336	49	1383	14.91	5317	57.33
7	377	54	1624	17.51	6941	74.84
8	435	70	1474	15.89	8415	90.74
9	521	120	859	9.26	9274	100.00

Table 16–68. Grade 7 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	126	0	0.00	0	0.00
1	100	70	0	0.00	0	0.00
2	100	50	2	0.02	2	0.02
3	100	41	0	0.00	2	0.02
4	120	36	0	0.00	2	0.02
5	137	33	0	0.00	2	0.02
6	152	30	1	0.01	3	0.03
7	164	28	2	0.02	5	0.05
8	175	27	8	0.09	13	0.14
9	185	26	13	0.14	26	0.28
10	195	25	25	0.27	51	0.55
11	203	24	28	0.30	79	0.85

Table 16–68 (continued). Grade 7 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
12	211	23	66	0.71	145	1.56
13	219	23	65	0.70	210	2.26
14	226	22	68	0.73	278	3.00
15	233	22	96	1.03	374	4.03
16	239	21	119	1.28	493	5.31
17	245	21	106	1.14	599	6.46
18	252	20	117	1.26	716	7.72
19	258	20	125	1.35	841	9.06
20	264	20	140	1.51	981	10.57
21	269	20	134	1.44	1115	12.02
22	275	19	156	1.68	1271	13.70
23	280	19	145	1.56	1416	15.26
24	286	19	152	1.64	1568	16.90
25	291	19	156	1.68	1724	18.58
26	296	19	164	1.77	1888	20.35
27	302	19	174	1.88	2062	22.22
28	307	19	170	1.83	2232	24.05
29	312	19	175	1.89	2407	25.94
30	317	19	170	1.83	2577	27.77
31	322	19	180	1.94	2757	29.71
32	327	19	188	2.03	2945	31.74
33	333	19	213	2.30	3158	34.03
34	338	19	230	2.48	3388	36.51
35	343	19	222	2.39	3610	38.91
36	348	19	206	2.22	3816	41.13
37	353	19	236	2.54	4052	43.67
38	359	19	262	2.82	4314	46.49
39	364	19	267	2.88	4581	49.37
40	370	20	263	2.83	4844	52.20
41	376	20	271	2.92	5115	55.12
42	381	20	281	3.03	5396	58.15
43	387	20	264	2.85	5660	61.00
44	394	21	310	3.34	5970	64.34
45	400	21	293	3.16	6263	67.50
46	407	22	298	3.21	6561	70.71
47	414	22	314	3.38	6875	74.09
48	421	23	287	3.09	7162	77.19
49	429	24	300	3.23	7462	80.42
50	437	24	292	3.15	7754	83.57
51	446	25	285	3.07	8039	86.64
52	456	27	285	3.07	8324	89.71
53	467	28	250	2.69	8574	92.40
54	479	30	243	2.62	8817	95.02
55	493	33	174	1.88	8991	96.90
56	510	36	139	1.50	9130	98.39
57	532	41	94	1.01	9224	99.41
58	561	50	36	0.39	9260	99.80
59	600	70	17	0.18	9277	99.98
60	600	126	2	0.02	9279	100.00

Table 16–69. Grade 7 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	129	38	0.41	38	0.41
1	138	74	191	2.06	229	2.47
2	197	56	349	3.76	578	6.23
3	237	49	534	5.75	1112	11.98
4	270	46	730	7.87	1842	19.85
5	300	45	856	9.23	2698	29.08
6	329	44	1006	10.84	3704	39.92
7	358	46	1170	12.61	4874	52.53
8	390	49	1356	14.61	6230	67.14
9	430	56	1332	14.35	7562	81.50
10	488	74	1183	12.75	8745	94.25
11	578	128	534	5.75	9279	100.00

Table 16–70. Grade 7 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	127	1	0.01	1	0.01
1	100	70	1	0.01	2	0.02
2	120	51	2	0.02	4	0.04
3	152	43	13	0.14	17	0.18
4	175	38	36	0.39	53	0.57
5	194	35	37	0.40	90	0.97
6	210	32	98	1.06	188	2.03
7	224	31	130	1.40	318	3.43
8	237	29	191	2.06	509	5.49
9	249	28	218	2.35	727	7.83
10	261	27	241	2.60	968	10.43
11	271	27	240	2.59	1208	13.02
12	282	26	259	2.79	1467	15.81
13	291	26	310	3.34	1777	19.15
14	301	26	333	3.59	2110	22.74
15	310	25	344	3.71	2454	26.45
16	320	25	335	3.61	2789	30.06
17	329	25	352	3.79	3141	33.85
18	338	25	356	3.84	3497	37.69
19	348	25	408	4.40	3905	42.08
20	357	26	439	4.73	4344	46.82
21	367	26	447	4.82	4791	51.63
22	376	26	445	4.80	5236	56.43
23	387	27	454	4.89	5690	61.32
24	397	28	476	5.13	6166	66.45
25	409	29	475	5.12	6641	71.57
26	421	30	461	4.97	7102	76.54
27	435	32	479	5.16	7581	81.70
28	450	34	450	4.85	8031	86.55

Table 16–70 (continued). Grade 7 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
29	469	37	427	4.60	8458	91.15
30	491	42	345	3.72	8803	94.87
31	521	50	284	3.06	9087	97.93
32	571	70	141	1.52	9228	99.45
33	600	126	51	0.55	9279	100.00

Table 16–71. Grade 7 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	127	6	0.06	6	0.06
1	102	72	23	0.25	29	0.31
2	157	53	86	0.93	115	1.24
3	192	46	185	1.99	300	3.23
4	219	42	269	2.90	569	6.13
5	243	39	333	3.59	902	9.72
6	264	38	416	4.48	1318	14.20
7	284	37	509	5.49	1827	19.69
8	304	37	569	6.13	2396	25.82
9	324	37	725	7.81	3121	33.64
10	345	38	849	9.15	3970	42.78
11	366	40	999	10.77	4969	53.55
12	391	42	1137	12.25	6106	65.80
13	419	46	1223	13.18	7329	78.98
14	455	54	1059	11.41	8388	90.40
15	511	73	673	7.25	9061	97.65
16	599	128	218	2.35	9279	100.00

Table 16–72. Grade 7 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	0	0.00	0	0.00
1	100	66	0	0.00	0	0.00
2	100	47	0	0.00	0	0.00
3	100	39	0	0.00	0	0.00
4	100	34	1	0.01	1	0.01
5	117	31	0	0.00	1	0.01
6	130	28	1	0.01	2	0.02
7	142	27	2	0.02	4	0.04
8	152	25	1	0.01	5	0.05
9	161	24	6	0.06	11	0.12
10	170	23	12	0.13	23	0.25
11	178	22	16	0.17	39	0.42
12	185	22	24	0.26	63	0.68

Table 16–72 (continued). Grade 7 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
13	192	21	25	0.27	88	0.95
14	199	21	34	0.37	122	1.32
15	205	20	54	0.58	176	1.90
16	212	20	67	0.72	243	2.62
17	218	20	82	0.88	325	3.50
18	223	19	79	0.85	404	4.36
19	229	19	112	1.21	516	5.56
20	235	19	98	1.06	614	6.62
21	240	19	115	1.24	729	7.86
22	246	19	138	1.49	867	9.35
23	251	19	110	1.19	977	10.53
24	257	19	134	1.44	1111	11.98
25	262	19	140	1.51	1251	13.49
26	267	19	162	1.75	1413	15.23
27	273	19	153	1.65	1566	16.88
28	278	19	149	1.61	1715	18.49
29	283	19	181	1.95	1896	20.44
30	289	19	175	1.89	2071	22.33
31	294	19	197	2.12	2268	24.45
32	300	19	187	2.02	2455	26.47
33	305	19	192	2.07	2647	28.54
34	311	19	224	2.42	2871	30.95
35	316	19	241	2.60	3112	33.55
36	322	19	262	2.82	3374	36.38
37	328	20	233	2.51	3607	38.89
38	334	20	268	2.89	3875	41.78
39	340	20	260	2.80	4135	44.58
40	346	20	301	3.25	4436	47.83
41	352	21	275	2.96	4711	50.79
42	359	21	295	3.18	5006	53.97
43	366	21	339	3.65	5345	57.63
44	373	22	354	3.82	5699	61.44
45	380	22	327	3.53	6026	64.97
46	388	23	377	4.06	6403	69.04
47	396	23	380	4.10	6783	73.13
48	405	24	354	3.82	7137	76.95
49	414	25	316	3.41	7453	80.36
50	424	26	354	3.82	7807	84.17
51	435	27	309	3.33	8116	87.50
52	446	28	302	3.26	8418	90.76
53	459	30	239	2.58	8657	93.34
54	474	32	203	2.19	8860	95.53
55	491	35	178	1.92	9038	97.44
56	511	38	100	1.08	9138	98.52
57	537	43	70	0.75	9208	99.28
58	571	52	50	0.54	9258	99.82
59	600	70	14	0.15	9272	99.97
60	600	123	3	0.03	9275	100.00

Table 16–73. Grade 7 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	1	0.01	1	0.01
1	100	67	1	0.01	2	0.02
2	100	49	1	0.01	3	0.03
3	130	40	14	0.15	17	0.18
4	152	36	30	0.32	47	0.51
5	171	33	41	0.44	88	0.95
6	186	31	76	0.82	164	1.77
7	201	30	100	1.08	264	2.85
8	214	29	152	1.64	416	4.49
9	227	29	192	2.07	608	6.56
10	240	29	259	2.79	867	9.35
11	253	29	295	3.18	1162	12.53
12	266	29	327	3.53	1489	16.05
13	280	30	382	4.12	1871	20.17
14	293	30	428	4.61	2299	24.79
15	308	31	528	5.69	2827	30.48
16	322	31	582	6.27	3409	36.75
17	338	32	694	7.48	4103	44.24
18	354	33	721	7.77	4824	52.01
19	372	35	734	7.91	5558	59.92
20	391	36	795	8.57	6353	68.50
21	412	38	843	9.09	7196	77.58
22	436	41	744	8.02	7940	85.61
23	463	44	579	6.24	8519	91.85
24	496	49	418	4.51	8937	96.36
25	538	57	220	2.37	9157	98.73
26	600	74	96	1.04	9253	99.76
27	600	125	22	0.24	9275	100.00

Table 16–74. Grade 7 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	5	0.05	5	0.05
1	101	69	29	0.31	34	0.37
2	153	51	85	0.92	119	1.28
3	187	44	173	1.87	292	3.15
4	214	40	317	3.42	609	6.57
5	237	38	443	4.78	1052	11.34
6	258	36	509	5.49	1561	16.83
7	278	36	613	6.61	2174	23.44
8	298	36	714	7.70	2888	31.14
9	317	36	793	8.55	3681	39.69
10	337	37	925	9.97	4606	49.66
11	359	38	973	10.49	5579	60.15
12	383	41	1082	11.67	6661	71.82
13	410	45	997	10.75	7658	82.57

Table 16–74 (continued). Grade 7 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
14	445	52	788	8.50	8446	91.06
15	499	69	576	6.21	9022	97.27
16	583	121	253	2.73	9275	100.00

Table 16–75. Grade 7 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	1	0.01	1	0.01
1	100	67	11	0.12	12	0.13
2	150	49	59	0.64	71	0.77
3	181	42	128	1.38	199	2.15
4	205	38	209	2.25	408	4.40
5	225	35	296	3.19	704	7.59
6	243	33	392	4.23	1096	11.82
7	260	33	441	4.75	1537	16.57
8	276	32	494	5.33	2031	21.90
9	292	32	552	5.95	2583	27.85
10	308	33	593	6.39	3176	34.24
11	325	34	717	7.73	3893	41.97
12	344	36	838	9.04	4731	51.01
13	364	38	1000	10.78	5731	61.79
14	389	42	1064	11.47	6795	73.26
15	421	50	1060	11.43	7855	84.69
16	472	68	909	9.80	8764	94.49
17	554	121	511	5.51	9275	100.00

GRADE 8

Table 16–76. Grade 8 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	0	0.00	0	0.00
1	100	65	0	0.00	0	0.00
2	100	46	0	0.00	0	0.00
3	100	38	1	0.01	1	0.01
4	100	34	1	0.01	2	0.02
5	113	31	0	0.00	2	0.02
6	127	28	1	0.01	3	0.03
7	139	27	4	0.04	7	0.07
8	149	25	5	0.05	12	0.13
9	159	24	13	0.14	25	0.27
10	167	23	18	0.19	43	0.46
11	175	22	30	0.32	73	0.78
12	183	22	44	0.47	117	1.25
13	190	21	61	0.65	178	1.91
14	197	21	86	0.92	264	2.83

Table 16–76 (continued). Grade 8 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
15	203	20	74	0.79	338	3.62
16	210	20	110	1.18	448	4.80
17	216	19	102	1.09	550	5.89
18	221	19	133	1.42	683	7.32
19	227	19	139	1.49	822	8.81
20	232	19	127	1.36	949	10.17
21	238	18	132	1.41	1081	11.58
22	243	18	129	1.38	1210	12.96
23	248	18	162	1.74	1372	14.70
24	253	18	168	1.80	1540	16.50
25	258	18	158	1.69	1698	18.19
26	263	18	170	1.82	1868	20.01
27	268	17	175	1.87	2043	21.89
28	273	17	163	1.75	2206	23.63
29	277	17	156	1.67	2362	25.31
30	282	17	190	2.04	2552	27.34
31	287	17	184	1.97	2736	29.31
32	291	17	206	2.21	2942	31.52
33	296	17	190	2.04	3132	33.55
34	301	17	203	2.17	3335	35.73
35	306	17	218	2.34	3553	38.07
36	310	17	228	2.44	3781	40.51
37	315	17	230	2.46	4011	42.97
38	320	17	271	2.90	4282	45.88
39	325	18	235	2.52	4517	48.39
40	330	18	236	2.53	4753	50.92
41	334	18	240	2.57	4993	53.49
42	340	18	229	2.45	5222	55.95
43	345	18	232	2.49	5454	58.43
44	350	18	225	2.41	5679	60.84
45	355	19	242	2.59	5921	63.43
46	361	19	232	2.49	6153	65.92
47	366	19	236	2.53	6389	68.45
48	372	19	234	2.51	6623	70.96
49	378	20	230	2.46	6853	73.42
50	384	20	219	2.35	7072	75.77
51	391	20	246	2.64	7318	78.40
52	397	21	231	2.47	7549	80.88
53	404	21	234	2.51	7783	83.38
54	412	22	227	2.43	8010	85.82
55	420	23	197	2.11	8207	87.93
56	428	24	209	2.24	8416	90.16
57	438	25	212	2.27	8628	92.44
58	448	27	179	1.92	8807	94.35
59	460	29	164	1.76	8971	96.11
60	474	32	122	1.31	9093	97.42
61	493	36	101	1.08	9194	98.50
62	518	44	71	0.76	9265	99.26
63	561	63	55	0.59	9320	99.85
64	600	116	14	0.15	9334	100.00

Table 16–77. Grade 8 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	119	67	0.72	67	0.72
1	147	70	270	2.89	337	3.61
2	205	54	580	6.21	917	9.82
3	245	48	981	10.51	1898	20.33
4	279	46	1305	13.98	3203	34.32
5	312	45	1490	15.96	4693	50.28
6	345	47	1483	15.89	6176	66.17
7	384	53	1457	15.61	7633	81.78
8	440	69	1115	11.95	8748	93.72
9	523	119	586	6.28	9334	100.00

Table 16–78. Grade 8 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	119	74	0.79	74	0.79
1	133	68	308	3.30	382	4.09
2	188	52	490	5.25	872	9.34
3	226	46	637	6.82	1509	16.17
4	256	43	739	7.92	2248	24.08
5	284	42	869	9.31	3117	33.39
6	312	43	1181	12.65	4298	46.05
7	344	48	1428	15.30	5726	61.35
8	390	64	1614	17.29	7340	78.64
9	467	116	1994	21.36	9334	100.00

Table 16–79. Grade 8 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	100	1.07	100	1.07
1	155	70	504	5.40	604	6.47
2	214	54	870	9.32	1474	15.79
3	254	48	1223	13.10	2697	28.89
4	287	45	1176	12.60	3873	41.49
5	319	45	1207	12.93	5080	54.42
6	351	47	1130	12.11	6210	66.53
7	389	52	1098	11.76	7308	78.29
8	443	68	1106	11.85	8414	90.14
9	526	118	920	9.86	9334	100.00

Table 16–80. Grade 8 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	118	4	0.04	4	0.04
1	100	67	34	0.36	38	0.41
2	134	50	86	0.92	124	1.33
3	167	43	164	1.76	288	3.09
4	193	39	325	3.48	613	6.57
5	215	37	500	5.36	1113	11.92
6	236	36	528	5.66	1641	17.58
7	257	36	666	7.14	2307	24.72
8	277	36	856	9.17	3163	33.89
9	298	37	918	9.84	4081	43.72
10	321	39	935	10.02	5016	53.74
11	348	43	980	10.50	5996	64.24
12	381	50	1027	11.00	7023	75.24
13	433	67	1236	13.24	8259	88.48
14	514	118	1075	11.52	9334	100.00

Table 16–81. Grade 8 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	19	0.20	19	0.20
1	100	71	102	1.09	121	1.30
2	156	56	261	2.80	382	4.09
3	199	50	549	5.88	931	9.97
4	235	47	756	8.10	1687	18.07
5	268	45	921	9.87	2608	27.94
6	299	44	1051	11.26	3659	39.20
7	329	43	1016	10.88	4675	50.09
8	356	41	1002	10.73	5677	60.82
9	382	40	901	9.65	6578	70.47
10	406	39	776	8.31	7354	78.79
11	430	40	726	7.78	8080	86.57
12	458	45	591	6.33	8671	92.90
13	498	59	355	3.80	9026	96.70
14	565	109	308	3.30	9334	100.00

Table 16–82. Grade 8 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	119	144	1.54	144	1.54
1	175	70	465	4.98	609	6.52
2	232	54	729	7.81	1338	14.33
3	273	48	990	10.61	2328	24.94
4	307	46	1248	13.37	3576	38.31
5	339	45	1453	15.57	5029	53.88
6	371	46	1503	16.10	6532	69.98
7	407	50	1319	14.13	7851	84.11
8	457	66	1021	10.94	8872	95.05
9	535	116	462	4.95	9334	100.00

Table 16–83. Grade 8 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	1	0.01	1	0.01
1	100	67	1	0.01	2	0.02
2	100	48	1	0.01	3	0.03
3	101	40	1	0.01	4	0.04
4	122	35	1	0.01	5	0.05
5	139	32	2	0.02	7	0.07
6	153	29	4	0.04	11	0.12
7	165	28	3	0.03	14	0.15
8	176	26	7	0.07	21	0.22
9	186	25	11	0.12	32	0.34
10	195	24	20	0.21	52	0.56
11	204	23	24	0.26	76	0.81
12	212	22	47	0.50	123	1.32
13	219	22	44	0.47	167	1.79
14	226	21	71	0.76	238	2.55
15	233	21	70	0.75	308	3.30
16	239	20	100	1.07	408	4.37
17	246	20	96	1.03	504	5.40
18	252	20	96	1.03	600	6.43
19	258	20	96	1.03	696	7.45
20	263	19	113	1.21	809	8.66
21	269	19	122	1.31	931	9.97
22	275	19	136	1.46	1067	11.43
23	280	19	138	1.48	1205	12.91
24	285	19	140	1.50	1345	14.41
25	290	19	163	1.75	1508	16.15
26	296	18	180	1.93	1688	18.08
27	301	18	168	1.80	1856	19.88
28	306	18	164	1.76	2020	21.63
29	311	18	184	1.97	2204	23.61
30	316	18	198	2.12	2402	25.73
31	321	18	198	2.12	2600	27.85

Table 16–83 (continued). Grade 8 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
32	326	18	205	2.20	2805	30.04
33	332	18	257	2.75	3062	32.79
34	337	18	211	2.26	3273	35.05
35	342	19	248	2.66	3521	37.71
36	347	19	242	2.59	3763	40.30
37	353	19	240	2.57	4003	42.87
38	358	19	269	2.88	4272	45.75
39	364	19	281	3.01	4553	48.76
40	369	19	267	2.86	4820	51.62
41	375	20	311	3.33	5131	54.95
42	381	20	319	3.42	5450	58.37
43	387	20	283	3.03	5733	61.40
44	393	20	310	3.32	6043	64.72
45	400	21	319	3.42	6362	68.14
46	406	21	306	3.28	6668	71.41
47	413	22	278	2.98	6946	74.39
48	421	22	313	3.35	7259	77.74
49	429	23	310	3.32	7569	81.06
50	437	24	299	3.20	7868	84.27
51	446	25	303	3.25	8171	87.51
52	456	26	248	2.66	8419	90.17
53	466	27	253	2.71	8672	92.88
54	479	29	212	2.27	8884	95.15
55	492	31	151	1.62	9035	96.77
56	509	35	126	1.35	9161	98.12
57	530	39	100	1.07	9261	99.19
58	558	48	59	0.63	9320	99.82
59	600	67	13	0.14	9333	99.96
60	600	121	4	0.04	9337	100.00

Table 16–84. Grade 8 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	122	30	0.32	30	0.32
1	154	70	122	1.31	152	1.63
2	209	53	310	3.32	462	4.95
3	245	46	440	4.71	902	9.66
4	274	42	658	7.05	1560	16.71
5	301	41	800	8.57	2360	25.28
6	325	40	1046	11.20	3406	36.48
7	350	41	1162	12.45	4568	48.92
8	377	42	1181	12.65	5749	61.57
9	406	46	1140	12.21	6889	73.78
10	442	53	1064	11.40	7953	85.18
11	497	70	816	8.74	8769	93.92
12	582	122	568	6.08	9337	100.00

Table 16–85. Grade 8 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	2	0.02	2	0.02
1	100	68	0	0.00	2	0.02
2	106	50	6	0.06	8	0.09
3	137	42	12	0.13	20	0.21
4	160	37	23	0.25	43	0.46
5	180	34	38	0.41	81	0.87
6	196	32	62	0.66	143	1.53
7	211	30	92	0.99	235	2.52
8	224	29	130	1.39	365	3.91
9	237	28	176	1.88	541	5.79
10	249	28	226	2.42	767	8.21
11	260	27	236	2.53	1003	10.74
12	271	27	252	2.70	1255	13.44
13	282	26	271	2.90	1526	16.34
14	293	26	314	3.36	1840	19.71
15	303	26	382	4.09	2222	23.80
16	314	26	426	4.56	2648	28.36
17	324	26	415	4.44	3063	32.80
18	335	27	429	4.59	3492	37.40
19	346	27	483	5.17	3975	42.57
20	357	28	493	5.28	4468	47.85
21	369	28	557	5.97	5025	53.82
22	382	29	565	6.05	5590	59.87
23	395	30	633	6.78	6223	66.65
24	410	32	644	6.90	6867	73.55
25	426	34	649	6.95	7516	80.50
26	446	37	596	6.38	8112	86.88
27	469	42	554	5.93	8666	92.81
28	500	50	412	4.41	9078	97.23
29	550	68	196	2.10	9274	99.33
30	600	121	63	0.67	9337	100.00

Table 16–86. Grade 8 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	122	9	0.10	9	0.10
1	129	69	30	0.32	39	0.42
2	181	51	100	1.07	139	1.49
3	214	43	163	1.75	302	3.23
4	240	39	265	2.84	567	6.07
5	262	37	352	3.77	919	9.84
6	281	35	431	4.62	1350	14.46
7	299	34	536	5.74	1886	20.20
8	316	34	570	6.10	2456	26.30
9	333	34	656	7.03	3112	33.33
10	351	34	782	8.38	3894	41.71

Table 16–86 (continued). Grade 8 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
11	368	34	807	8.64	4701	50.35
12	387	35	896	9.60	5597	59.94
13	407	37	964	10.32	6561	70.27
14	429	39	938	10.05	7499	80.31
15	454	43	762	8.16	8261	88.48
16	487	50	632	6.77	8893	95.24
17	538	68	336	3.60	9229	98.84
18	600	121	108	1.16	9337	100.00

Table 16–87. Grade 8 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	0	0.00	0	0.00
1	100	68	0	0.00	0	0.00
2	100	49	0	0.00	0	0.00
3	100	40	3	0.03	3	0.03
4	101	35	0	0.00	3	0.03
5	117	32	1	0.01	4	0.04
6	131	29	3	0.03	7	0.08
7	143	28	0	0.00	7	0.08
8	154	26	2	0.02	9	0.10
9	163	25	12	0.13	21	0.23
10	172	24	11	0.12	32	0.34
11	180	23	27	0.29	59	0.63
12	188	23	28	0.30	87	0.93
13	196	22	46	0.49	133	1.43
14	203	22	52	0.56	185	1.99
15	209	21	55	0.59	240	2.58
16	216	21	61	0.65	301	3.23
17	222	21	72	0.77	373	4.00
18	228	20	97	1.04	470	5.04
19	234	20	94	1.01	564	6.05
20	240	20	123	1.32	687	7.37
21	246	20	121	1.30	808	8.67
22	252	20	137	1.47	945	10.14
23	257	19	120	1.29	1065	11.43
24	263	19	147	1.58	1212	13.01
25	269	19	138	1.48	1350	14.49
26	274	19	162	1.74	1512	16.23
27	280	19	157	1.69	1669	17.91
28	285	19	184	1.97	1853	19.89
29	291	19	179	1.92	2032	21.81
30	296	19	167	1.79	2199	23.60
31	302	19	197	2.11	2396	25.72
32	307	19	204	2.19	2600	27.91
33	313	19	199	2.14	2799	30.04
34	318	20	239	2.57	3038	32.61

Table 16–87 (continued). Grade 8 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
35	324	20	250	2.68	3288	35.29
36	330	20	281	3.02	3569	38.31
37	336	20	266	2.85	3835	41.16
38	342	20	306	3.28	4141	44.45
39	348	20	277	2.97	4418	47.42
40	354	21	318	3.41	4736	50.83
41	361	21	296	3.18	5032	54.01
42	367	21	298	3.20	5330	57.21
43	374	22	324	3.48	5654	60.68
44	381	22	343	3.68	5997	64.37
45	389	23	365	3.92	6362	68.28
46	396	23	352	3.78	6714	72.06
47	405	24	350	3.76	7064	75.82
48	413	25	366	3.93	7430	79.75
49	422	25	302	3.24	7732	82.99
50	432	26	304	3.26	8036	86.25
51	443	28	266	2.85	8302	89.11
52	455	29	254	2.73	8556	91.83
53	468	31	231	2.48	8787	94.31
54	484	33	182	1.95	8969	96.26
55	501	36	127	1.36	9096	97.63
56	523	40	111	1.19	9207	98.82
57	550	47	70	0.75	9277	99.57
58	589	57	35	0.38	9312	99.95
59	600	78	4	0.04	9316	99.99
60	600	131	1	0.01	9317	100.00

Table 16–88. Grade 8 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	3	0.03	3	0.03
1	100	69	4	0.04	7	0.08
2	101	50	9	0.10	16	0.17
3	131	42	14	0.15	30	0.32
4	154	37	23	0.25	53	0.57
5	173	34	62	0.67	115	1.23
6	189	33	80	0.86	195	2.09
7	204	31	134	1.44	329	3.53
8	219	31	170	1.82	499	5.36
9	232	30	230	2.47	729	7.82
10	246	30	242	2.60	971	10.42
11	259	30	322	3.46	1293	13.88
12	273	30	338	3.63	1631	17.51
13	287	31	415	4.45	2046	21.96
14	301	31	465	4.99	2511	26.95
15	316	32	519	5.57	3030	32.52

Table 16–88 (continued). Grade 8 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
16	331	33	629	6.75	3659	39.27
17	347	34	703	7.55	4362	46.82
18	364	35	770	8.26	5132	55.08
19	383	36	778	8.35	5910	63.43
20	403	37	800	8.59	6710	72.02
21	424	39	804	8.63	7514	80.65
22	449	42	716	7.68	8230	88.33
23	477	45	541	5.81	8771	94.14
24	511	51	328	3.52	9099	97.66
25	557	62	170	1.82	9269	99.48
26	600	84	43	0.46	9312	99.95
27	600	134	5	0.05	9317	100.00

Table 16–89. Grade 8 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	125	5	0.05	5	0.05
1	100	70	20	0.21	25	0.27
2	150	51	50	0.54	75	0.80
3	182	43	119	1.28	194	2.08
4	207	39	237	2.54	431	4.63
5	227	36	323	3.47	754	8.09
6	245	34	364	3.91	1118	12.00
7	262	33	482	5.17	1600	17.17
8	278	32	520	5.58	2120	22.75
9	293	32	560	6.01	2680	28.76
10	308	32	598	6.42	3278	35.18
11	323	32	697	7.48	3975	42.66
12	339	33	706	7.58	4681	50.24
13	355	34	724	7.77	5405	58.01
14	374	36	767	8.23	6172	66.24
15	394	39	754	8.09	6926	74.34
16	419	43	733	7.87	7659	82.20
17	451	51	745	8.00	8404	90.20
18	503	70	582	6.25	8986	96.45
19	587	125	331	3.55	9317	100.00

Table 16–90. Grade 8 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	125	11	0.12	11	0.12
1	102	71	41	0.44	52	0.56
2	157	53	125	1.34	177	1.90
3	194	46	220	2.36	397	4.26
4	222	42	337	3.62	734	7.88

Table 16–90 (continued). Grade 8 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
5	248	40	413	4.43	1147	12.31
6	271	39	553	5.94	1700	18.25
7	293	39	706	7.58	2406	25.82
8	315	39	865	9.28	3271	35.11
9	338	40	1001	10.74	4272	45.85
10	362	42	1144	12.28	5416	58.13
11	390	45	1258	13.50	6674	71.63
12	425	52	1165	12.50	7839	84.14
13	478	71	974	10.45	8813	94.59
14	563	125	504	5.41	9317	100.00

GRADE 9

Table 16–91. Grade 9 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	116	0	0.00	0	0.00
1	100	64	0	0.00	0	0.00
2	100	46	0	0.00	0	0.00
3	100	38	0	0.00	0	0.00
4	103	33	2	0.02	2	0.02
5	118	30	3	0.03	5	0.05
6	132	28	0	0.00	5	0.05
7	143	26	6	0.06	11	0.11
8	153	25	8	0.08	19	0.20
9	162	23	10	0.10	29	0.30
10	170	22	14	0.15	43	0.45
11	178	22	37	0.39	80	0.83
12	185	21	62	0.65	142	1.48
13	192	20	73	0.76	215	2.24
14	198	20	85	0.89	300	3.13
15	204	19	101	1.05	401	4.18
16	210	19	116	1.21	517	5.39
17	215	18	137	1.43	654	6.82
18	221	18	130	1.36	784	8.17
19	226	18	152	1.58	936	9.76
20	231	18	136	1.42	1072	11.18
21	236	17	152	1.58	1224	12.76
22	240	17	186	1.94	1410	14.70
23	245	17	178	1.86	1588	16.56
24	250	17	173	1.80	1761	18.36
25	254	17	184	1.92	1945	20.28
26	258	17	177	1.85	2122	22.12
27	263	17	170	1.77	2292	23.90

Table 16–91 (continued). Grade 9 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
28	267	16	199	2.07	2491	25.97
29	271	16	195	2.03	2686	28.01
30	276	16	183	1.91	2869	29.91
31	280	16	204	2.13	3073	32.04
32	284	16	191	1.99	3264	34.03
33	289	16	212	2.21	3476	36.24
34	293	16	194	2.02	3670	38.27
35	297	16	215	2.24	3885	40.51
36	301	17	224	2.34	4109	42.84
37	306	17	235	2.45	4344	45.29
38	310	17	217	2.26	4561	47.55
39	315	17	273	2.85	4834	50.40
40	319	17	256	2.67	5090	53.07
41	324	17	240	2.50	5330	55.57
42	328	17	228	2.38	5558	57.95
43	333	17	251	2.62	5809	60.57
44	338	18	234	2.44	6043	63.01
45	343	18	248	2.59	6291	65.59
46	348	18	228	2.38	6519	67.97
47	354	19	242	2.52	6761	70.49
48	359	19	248	2.59	7009	73.08
49	365	19	236	2.46	7245	75.54
50	371	20	237	2.47	7482	78.01
51	378	20	233	2.43	7715	80.44
52	384	21	211	2.20	7926	82.64
53	392	22	224	2.34	8150	84.98
54	399	23	204	2.13	8354	87.10
55	408	24	214	2.23	8568	89.33
56	418	25	214	2.23	8782	91.57
57	428	27	164	1.71	8946	93.27
58	441	29	155	1.62	9101	94.89
59	455	32	146	1.52	9247	96.41
60	473	36	136	1.42	9383	97.83
61	497	42	101	1.05	9484	98.88
62	533	53	57	0.59	9541	99.48
63	595	74	39	0.41	9580	99.89
64	600	123	11	0.11	9591	100.00

Table 16–92. Grade 9 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	101	1.05	101	1.05
1	139	67	338	3.52	439	4.58
2	192	51	627	6.54	1066	11.11
3	228	45	880	9.18	1946	20.29
4	259	43	988	10.30	2934	30.59

Table 16–92 (continued). Grade 9 Mathematics—Numeration

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
5	288	43	1044	10.89	3978	41.48
6	319	45	1220	12.72	5198	54.20
7	355	51	1448	15.10	6646	69.29
8	409	67	1591	16.59	8237	85.88
9	491	117	1354	14.12	9591	100.00

Table 16–93. Grade 9 Mathematics—Measurement

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	182	1.90	182	1.90
1	147	72	539	5.62	721	7.52
2	209	57	1049	10.94	1770	18.45
3	256	53	1501	15.65	3271	34.10
4	299	51	1659	17.30	4930	51.40
5	340	50	1523	15.88	6453	67.28
6	381	52	1330	13.87	7783	81.15
7	431	64	1033	10.77	8816	91.92
8	504	112	775	8.08	9591	100.00

Table 16–94. Grade 9 Mathematics—Estimation and Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	60	0.63	60	0.63
1	120	67	216	2.25	276	2.88
2	174	51	491	5.12	767	8.00
3	210	46	731	7.62	1498	15.62
4	242	44	916	9.55	2414	25.17
5	271	44	1092	11.39	3506	36.56
6	303	46	1327	13.84	4833	50.39
7	340	52	1589	16.57	6422	66.96
8	395	68	1765	18.40	8187	85.36
9	477	118	1404	14.64	9591	100.00

Table 16–95. Grade 9 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	17	0.18	17	0.18
1	128	66	113	1.18	130	1.36
2	177	49	337	3.51	467	4.87
3	209	42	590	6.15	1057	11.02
4	235	38	760	7.92	1817	18.94
5	256	36	941	9.81	2758	28.76

Table 16–95 (continued). Grade 9 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
6	276	35	953	9.94	3711	38.69
7	296	35	882	9.20	4593	47.89
8	315	35	877	9.14	5470	57.03
9	335	36	818	8.53	6288	65.56
10	357	38	770	8.03	7058	73.59
11	382	42	749	7.81	7807	81.40
12	414	49	713	7.43	8520	88.83
13	464	66	645	6.73	9165	95.56
14	544	117	426	4.44	9591	100.00

Table 16–96. Grade 9 Mathematics—Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	117	69	0.72	69	0.72
1	145	67	256	2.67	325	3.39
2	197	50	543	5.66	868	9.05
3	231	43	758	7.90	1626	16.95
4	258	40	1001	10.44	2627	27.39
5	283	39	1041	10.85	3668	38.24
6	307	39	1151	12.00	4819	50.25
7	332	40	1111	11.58	5930	61.83
8	359	43	1102	11.49	7032	73.32
9	393	50	1086	11.32	8118	84.64
10	445	67	883	9.21	9001	93.85
11	525	117	590	6.15	9591	100.00

Table 16–97. Grade 9 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	35	0.36	35	0.36
1	106	71	97	1.01	132	1.38
2	164	53	247	2.58	379	3.95
3	201	45	391	4.08	770	8.03
4	229	40	486	5.07	1256	13.10
5	253	38	693	7.23	1949	20.32
6	275	37	911	9.50	2860	29.82
7	297	37	1083	11.29	3943	41.11
8	320	39	1295	13.50	5238	54.61
9	345	42	1313	13.69	6551	68.30
10	378	49	1266	13.20	7817	81.50
11	427	64	1099	11.46	8916	92.96
12	535	103	596	6.21	9512	99.18
13	600	133	79	0.82	9591	100.00

Table 16–98. Grade 9 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	0	0.00	0	0.00
1	100	66	1	0.01	1	0.01
2	100	47	0	0.00	1	0.01
3	103	39	2	0.02	3	0.03
4	123	34	3	0.03	6	0.06
5	140	31	3	0.03	9	0.09
6	154	29	3	0.03	12	0.12
7	166	27	11	0.11	23	0.24
8	176	26	5	0.05	28	0.29
9	186	24	12	0.12	40	0.42
10	195	23	31	0.32	71	0.74
11	203	23	40	0.42	111	1.15
12	210	22	51	0.53	162	1.68
13	217	21	58	0.60	220	2.28
14	224	21	78	0.81	298	3.09
15	231	20	91	0.94	389	4.04
16	237	20	102	1.06	491	5.10
17	243	20	91	0.94	582	6.04
18	249	19	124	1.29	706	7.33
19	254	19	114	1.18	820	8.51
20	260	19	110	1.14	930	9.65
21	265	19	119	1.24	1049	10.89
22	270	18	149	1.55	1198	12.43
23	276	18	144	1.49	1342	13.93
24	281	18	166	1.72	1508	15.65
25	286	18	174	1.81	1682	17.46
26	291	18	166	1.72	1848	19.18
27	295	18	156	1.62	2004	20.80
28	300	18	167	1.73	2171	22.53
29	305	18	179	1.86	2350	24.39
30	310	18	180	1.87	2530	26.26
31	315	18	228	2.37	2758	28.62
32	320	18	198	2.06	2956	30.68
33	324	18	202	2.10	3158	32.78
34	329	18	223	2.31	3381	35.09
35	334	18	220	2.28	3601	37.37
36	339	18	224	2.32	3825	39.70
37	344	18	214	2.22	4039	41.92
38	349	18	250	2.59	4289	44.51
39	354	18	261	2.71	4550	47.22
40	359	19	249	2.58	4799	49.81
41	365	19	283	2.94	5082	52.75
42	370	19	288	2.99	5370	55.73
43	376	19	281	2.92	5651	58.65
44	382	20	299	3.10	5950	61.75
45	388	20	291	3.02	6241	64.77
46	394	20	321	3.33	6562	68.11
47	400	21	303	3.14	6865	71.25
48	407	22	313	3.25	7178	74.50

Table 16–98 (continued). Grade 9 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
49	415	22	340	3.53	7518	78.03
50	422	23	305	3.17	7823	81.19
51	431	24	348	3.61	8171	84.81
52	440	25	320	3.32	8491	88.13
53	451	27	261	2.71	8752	90.84
54	462	29	241	2.50	8993	93.34
55	476	31	220	2.28	9213	95.62
56	493	35	188	1.95	9401	97.57
57	513	39	129	1.34	9530	98.91
58	542	48	74	0.77	9604	99.68
59	590	67	26	0.27	9630	99.95
60	600	120	5	0.05	9635	100.00

Table 16–99. Grade 9 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	123	14	0.15	14	0.15
1	132	71	97	1.01	111	1.15
2	190	54	250	2.59	361	3.75
3	228	47	466	4.84	827	8.58
4	259	43	618	6.41	1445	15.00
5	286	42	819	8.50	2264	23.50
6	312	41	1005	10.43	3269	33.93
7	339	43	1147	11.90	4416	45.83
8	369	46	1267	13.15	5683	58.98
9	405	52	1477	15.33	7160	74.31
10	459	69	1492	15.49	8652	89.80
11	543	121	983	10.20	9635	100.00

Table 16–100. Grade 9 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	120	1	0.01	1	0.01
1	100	67	1	0.01	2	0.02
2	122	48	11	0.11	13	0.13
3	152	40	24	0.25	37	0.38
4	173	36	32	0.33	69	0.72
5	191	33	59	0.61	128	1.33
6	206	30	132	1.37	260	2.70
7	220	29	144	1.49	404	4.19
8	232	28	179	1.86	583	6.05
9	243	27	202	2.10	785	8.15

Table 16–100 (continued). Grade 9 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
10	254	26	244	2.53	1029	10.68
11	264	25	243	2.52	1272	13.20
12	273	25	272	2.82	1544	16.02
13	283	25	345	3.58	1889	19.61
14	292	24	316	3.28	2205	22.89
15	301	24	360	3.74	2565	26.62
16	310	24	352	3.65	2917	30.28
17	320	25	382	3.96	3299	34.24
18	329	25	395	4.10	3694	38.34
19	338	25	441	4.58	4135	42.92
20	348	26	420	4.36	4555	47.28
21	359	26	519	5.39	5074	52.66
22	370	27	508	5.27	5582	57.93
23	381	28	523	5.43	6105	63.36
24	394	30	533	5.53	6638	68.89
25	408	31	603	6.26	7241	75.15
26	425	34	617	6.40	7858	81.56
27	444	37	593	6.15	8451	87.71
28	467	42	506	5.25	8957	92.96
29	499	50	394	4.09	9351	97.05
30	551	69	234	2.43	9585	99.48
31	600	121	50	0.52	9635	100.00

Table 16–101. Grade 9 Reading—Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	7	0.07	7	0.07
1	115	69	31	0.32	38	0.39
2	168	51	93	0.97	131	1.36
3	203	44	173	1.80	304	3.16
4	230	40	274	2.84	578	6.00
5	252	37	358	3.72	936	9.71
6	273	36	435	4.51	1371	14.23
7	291	34	484	5.02	1855	19.25
8	309	33	597	6.20	2452	25.45
9	326	33	675	7.01	3127	32.45
10	342	32	766	7.95	3893	40.40
11	358	32	814	8.45	4707	48.85
12	374	33	872	9.05	5579	57.90
13	391	34	921	9.56	6500	67.46
14	409	36	908	9.42	7408	76.89
15	431	40	841	8.73	8249	85.61
16	460	48	717	7.44	8966	93.06
17	508	66	469	4.87	9435	97.92
18	588	120	200	2.08	9635	100.00

Table 16–102. Grade 9 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	0	0.00	0	0.00
1	100	68	1	0.01	1	0.01
2	100	49	1	0.01	2	0.02
3	100	40	1	0.01	3	0.03
4	100	35	1	0.01	4	0.04
5	105	32	2	0.02	6	0.06
6	119	30	5	0.05	11	0.11
7	131	28	4	0.04	15	0.16
8	142	26	3	0.03	18	0.19
9	152	25	8	0.08	26	0.27
10	161	24	14	0.15	40	0.42
11	169	23	11	0.11	51	0.53
12	177	23	28	0.29	79	0.82
13	184	22	26	0.27	105	1.09
14	191	22	45	0.47	150	1.56
15	198	21	48	0.50	198	2.06
16	204	21	39	0.41	237	2.47
17	211	20	71	0.74	308	3.21
18	217	20	98	1.02	406	4.23
19	223	20	69	0.72	475	4.94
20	229	20	81	0.84	556	5.79
21	234	20	93	0.97	649	6.76
22	240	19	87	0.91	736	7.66
23	245	19	111	1.16	847	8.82
24	251	19	120	1.25	967	10.07
25	256	19	140	1.46	1107	11.52
26	262	19	136	1.42	1243	12.94
27	267	19	176	1.83	1419	14.77
28	273	19	167	1.74	1586	16.51
29	278	19	159	1.66	1745	18.17
30	283	19	172	1.79	1917	19.96
31	289	19	178	1.85	2095	21.81
32	294	19	207	2.15	2302	23.96
33	300	19	200	2.08	2502	26.05
34	305	19	226	2.35	2728	28.40
35	311	20	249	2.59	2977	30.99
36	317	20	266	2.77	3243	33.76
37	323	20	308	3.21	3551	36.97
38	329	20	315	3.28	3866	40.25
39	335	20	315	3.28	4181	43.52
40	341	21	291	3.03	4472	46.55
41	347	21	329	3.42	4801	49.98
42	354	21	368	3.83	5169	53.81
43	361	22	362	3.77	5531	57.58
44	368	22	332	3.46	5863	61.03
45	375	23	367	3.82	6230	64.86
46	383	23	401	4.17	6631	69.03
47	391	24	379	3.95	7010	72.98
48	400	25	407	4.24	7417	77.21
49	409	26	376	3.91	7793	81.13

Table 16–102 (continued). Grade 9 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
50	419	27	382	3.98	8175	85.10
51	430	28	346	3.60	8521	88.70
52	442	29	289	3.01	8810	91.71
53	456	31	255	2.65	9065	94.37
54	471	33	210	2.19	9275	96.55
55	489	36	153	1.59	9428	98.15
56	511	40	92	0.96	9520	99.10
57	538	46	60	0.62	9580	99.73
58	577	56	16	0.17	9596	99.90
59	600	76	8	0.08	9604	99.98
60	600	129	2	0.02	9606	100.00

Table 16–103. Grade 9 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	3	0.03	3	0.03
1	100	69	5	0.05	8	0.08
2	100	50	8	0.08	16	0.17
3	124	42	19	0.20	35	0.36
4	147	37	29	0.30	64	0.67
5	166	34	43	0.45	107	1.11
6	183	32	73	0.76	180	1.87
7	198	31	94	0.98	274	2.85
8	212	30	143	1.49	417	4.34
9	225	30	166	1.73	583	6.07
10	237	29	187	1.95	770	8.02
11	250	29	257	2.68	1027	10.69
12	262	29	312	3.25	1339	13.94
13	275	29	384	4.00	1723	17.94
14	287	29	437	4.55	2160	22.49
15	300	30	512	5.33	2672	27.82
16	313	30	530	5.52	3202	33.33
17	327	31	635	6.61	3837	39.94
18	341	31	688	7.16	4525	47.11
19	356	32	790	8.22	5315	55.33
20	372	34	790	8.22	6105	63.55
21	390	35	798	8.31	6903	71.86
22	409	37	747	7.78	7650	79.64
23	431	40	716	7.45	8366	87.09
24	458	45	591	6.15	8957	93.24
25	492	51	391	4.07	9348	97.31
26	538	62	184	1.92	9532	99.23
27	600	81	60	0.62	9592	99.85
28	600	132	14	0.15	9606	100.00

Table 16–104. Grade 9 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	125	5	0.05	5	0.05
1	100	71	37	0.39	42	0.44
2	143	53	99	1.03	141	1.47
3	179	46	165	1.72	306	3.19
4	207	42	278	2.89	584	6.08
5	233	40	396	4.12	980	10.20
6	256	40	540	5.62	1520	15.82
7	279	40	745	7.76	2265	23.58
8	303	41	988	10.29	3253	33.86
9	328	43	1205	12.54	4458	46.41
10	357	46	1390	14.47	5848	60.88
11	394	53	1567	16.31	7415	77.19
12	449	71	1350	14.05	8765	91.25
13	536	125	841	8.75	9606	100.00

Table 16–105. Grade 9 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	125	8	0.08	8	0.08
1	100	70	10	0.10	18	0.19
2	132	52	47	0.49	65	0.68
3	165	44	102	1.06	167	1.74
4	191	39	165	1.72	332	3.46
5	212	37	236	2.46	568	5.91
6	231	35	368	3.83	936	9.74
7	249	34	399	4.15	1335	13.90
8	265	33	459	4.78	1794	18.68
9	281	33	541	5.63	2335	24.31
10	298	33	596	6.20	2931	30.51
11	314	34	717	7.46	3648	37.98
12	331	34	759	7.90	4407	45.88
13	349	36	910	9.47	5317	55.35
14	369	38	960	9.99	6277	65.34
15	392	41	1072	11.16	7349	76.50
16	420	46	1018	10.60	8367	87.10
17	456	54	799	8.32	9166	95.42
18	513	73	365	3.80	9531	99.22
19	600	126	75	0.78	9606	100.00

GRADE 10

Table 16–106. Grade 10 Mathematics—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	107	0	0.00	0	0.00
1	100	60	1	0.01	1	0.01
2	100	43	1	0.01	2	0.02
3	113	36	2	0.02	4	0.04
4	132	32	10	0.11	14	0.15
5	148	29	17	0.19	31	0.34
6	162	27	32	0.35	63	0.69
7	174	26	30	0.33	93	1.02
8	186	25	59	0.65	152	1.67
9	196	24	66	0.72	218	2.39
10	205	23	85	0.93	303	3.32
11	215	23	129	1.41	432	4.73
12	223	22	125	1.37	557	6.10
13	232	22	145	1.59	702	7.69
14	240	22	185	2.03	887	9.72
15	248	22	202	2.21	1089	11.94
16	256	21	206	2.26	1295	14.19
17	264	21	267	2.93	1562	17.12
18	272	21	273	2.99	1835	20.11
19	280	21	310	3.40	2145	23.51
20	287	21	417	4.57	2562	28.08
21	295	21	396	4.34	2958	32.42
22	303	21	455	4.99	3413	37.41
23	311	22	445	4.88	3858	42.28
24	319	22	456	5.00	4314	47.28
25	327	22	460	5.04	4774	52.32
26	335	22	460	5.04	5234	57.37
27	344	22	430	4.71	5664	62.08
28	352	22	466	5.11	6130	67.19
29	361	23	402	4.41	6532	71.59
30	370	23	371	4.07	6903	75.66
31	380	24	349	3.83	7252	79.48
32	390	25	334	3.66	7586	83.14
33	401	26	326	3.57	7912	86.72
34	413	27	296	3.24	8208	89.96
35	427	29	268	2.94	8476	92.90
36	443	32	228	2.50	8704	95.40
37	464	37	170	1.86	8874	97.26
38	492	44	122	1.34	8996	98.60
39	537	61	83	0.91	9079	99.51
40	600	108	45	0.49	9124	100.00

Table 16–107. Grade 10 Mathematics—Numeration and Estimation & Computation

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	108	14	0.15	14	0.15
1	123	62	62	0.68	76	0.83
2	171	46	174	1.91	250	2.74
3	203	41	351	3.85	601	6.59
4	229	38	510	5.59	1111	12.18
5	254	37	707	7.75	1818	19.93
6	278	38	943	10.34	2761	30.26
7	304	41	1340	14.69	4101	44.95
8	336	46	1721	18.86	5822	63.81
9	384	62	1857	20.35	7679	84.16
10	459	108	1445	15.84	9124	100.00

Table 16–108. Grade 10 Mathematics—Measurement and Geometry

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	110	77	0.84	77	0.84
1	165	65	309	3.39	386	4.23
2	221	51	716	7.85	1102	12.08
3	261	46	1223	13.40	2325	25.48
4	296	44	1667	18.27	3992	43.75
5	329	44	1527	16.74	5519	60.49
6	363	45	1217	13.34	6736	73.83
7	399	47	1018	11.16	7754	84.98
8	442	53	804	8.81	8558	93.80
9	501	67	295	3.23	8853	97.03
10	584	111	271	2.97	9124	100.00

Table 16–109. Grade 10 Mathematics—Functions and Relationships

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	110	48	0.53	48	0.53
1	128	66	184	2.02	232	2.54
2	186	53	373	4.09	605	6.63
3	229	48	675	7.40	1280	14.03
4	266	45	1146	12.56	2426	26.59
5	301	44	1486	16.29	3912	42.88
6	334	44	1518	16.64	5430	59.51
7	369	46	1317	14.43	6747	73.95
8	409	51	1128	12.36	7875	86.31
9	464	65	832	9.12	8707	95.43
10	545	110	417	4.57	9124	100.00

Table 16–110. Grade 10 Mathematics—Statistics/Probability

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	109	21	0.23	21	0.23
1	108	64	131	1.44	152	1.67
2	163	51	279	3.06	431	4.72
3	203	47	467	5.12	898	9.84
4	241	47	819	8.98	1717	18.82
5	279	48	1206	13.22	2923	32.04
6	319	47	1701	18.64	4624	50.68
7	355	45	1394	15.28	6018	65.96
8	388	44	1164	12.76	7182	78.72
9	427	53	869	9.52	8051	88.24
10	482	95	1073	11.76	9124	100.00

Table 16–111. Grade 10 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	128	0	0.00	0	0.00
1	100	71	1	0.01	1	0.01
2	100	51	1	0.01	2	0.02
3	100	42	1	0.01	3	0.03
4	100	37	1	0.01	4	0.04
5	107	33	1	0.01	5	0.06
6	122	31	1	0.01	6	0.07
7	134	29	1	0.01	7	0.08
8	146	27	1	0.01	8	0.09
9	156	26	4	0.04	12	0.13
10	165	25	3	0.03	15	0.17
11	174	24	8	0.09	23	0.25
12	182	23	7	0.08	30	0.33
13	189	23	11	0.12	41	0.45
14	196	22	6	0.07	47	0.52
15	203	22	18	0.20	65	0.72
16	210	21	25	0.28	90	0.99
17	216	21	42	0.46	132	1.45
18	222	20	40	0.44	172	1.89
19	228	20	53	0.58	225	2.48
20	233	20	67	0.74	292	3.22
21	239	19	67	0.74	359	3.95
22	244	19	69	0.76	428	4.71
23	249	19	73	0.80	501	5.52
24	254	19	76	0.84	577	6.35
25	259	19	105	1.16	682	7.51
26	264	19	84	0.93	766	8.44
27	269	18	101	1.11	867	9.55
28	274	18	95	1.05	962	10.59

Table 16–111 (continued). Grade 10 Reading—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
29	279	18	117	1.29	1079	11.88
30	283	18	110	1.21	1189	13.09
31	288	18	109	1.20	1298	14.30
32	293	18	119	1.31	1417	15.61
33	297	18	129	1.42	1546	17.03
34	302	18	141	1.55	1687	18.58
35	307	18	138	1.52	1825	20.10
36	311	18	180	1.98	2005	22.08
37	316	18	167	1.84	2172	23.92
38	320	18	178	1.96	2350	25.88
39	325	18	194	2.14	2544	28.02
40	330	18	171	1.88	2715	29.90
41	334	18	201	2.21	2916	32.11
42	339	18	234	2.58	3150	34.69
43	344	18	218	2.40	3368	37.09
44	348	18	215	2.37	3583	39.46
45	353	18	246	2.71	3829	42.17
46	358	19	197	2.17	4026	44.34
47	363	19	263	2.90	4289	47.24
48	368	19	260	2.86	4549	50.10
49	373	19	262	2.89	4811	52.98
50	379	19	271	2.98	5082	55.97
51	384	20	254	2.80	5336	58.77
52	390	20	255	2.81	5591	61.57
53	395	20	270	2.97	5861	64.55
54	401	20	303	3.34	6164	67.89
55	407	21	307	3.38	6471	71.27
56	414	21	280	3.08	6751	74.35
57	420	22	276	3.04	7027	77.39
58	427	22	278	3.06	7305	80.45
59	434	23	294	3.24	7599	83.69
60	442	24	262	2.89	7861	86.57
61	450	24	211	2.32	8072	88.90
62	459	25	231	2.54	8303	91.44
63	468	26	188	2.07	8491	93.51
64	479	28	165	1.82	8656	95.33
65	490	29	136	1.50	8792	96.83
66	503	31	106	1.17	8898	98.00
67	518	34	93	1.02	8991	99.02
68	536	37	43	0.47	9034	99.49
69	559	43	30	0.33	9064	99.82
70	590	51	14	0.15	9078	99.98
71	600	72	2	0.02	9080	100.00
72	600	129	0	0.00	9080	100.00

Table 16–112. Grade 10 Reading—Word Identification Skills

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	130	39	0.43	39	0.43
1	165	75	201	2.21	240	2.64
2	223	57	470	5.18	710	7.82
3	263	50	725	7.98	1435	15.80
4	296	47	855	9.42	2290	25.22
5	327	46	1031	11.35	3321	36.57
6	358	47	1153	12.70	4474	49.27
7	391	50	1224	13.48	5698	62.75
8	432	57	1226	13.50	6924	76.26
9	492	75	1214	13.37	8138	89.63
10	583	131	942	10.37	9080	100.00

Table 16–113. Grade 10 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	129	0	0.00	0	0.00
1	100	72	3	0.03	3	0.03
2	100	52	0	0.00	3	0.03
3	100	43	2	0.02	5	0.06
4	123	38	4	0.04	9	0.10
5	142	35	4	0.04	13	0.14
6	158	32	9	0.10	22	0.24
7	172	31	10	0.11	32	0.35
8	185	29	23	0.25	55	0.61
9	196	28	27	0.30	82	0.90
10	207	27	48	0.53	130	1.43
11	217	26	76	0.84	206	2.27
12	227	25	82	0.90	288	3.17
13	236	25	97	1.07	385	4.24
14	244	24	111	1.22	496	5.46
15	253	24	121	1.33	617	6.80
16	261	24	138	1.52	755	8.31
17	269	23	122	1.34	877	9.66
18	277	23	170	1.87	1047	11.53
19	284	23	175	1.93	1222	13.46
20	292	23	172	1.89	1394	15.35
21	299	23	221	2.43	1615	17.79
22	307	23	225	2.48	1840	20.26
23	314	23	239	2.63	2079	22.90
24	321	23	273	3.01	2352	25.90
25	329	23	320	3.52	2672	29.43
26	336	23	306	3.37	2978	32.80
27	344	23	365	4.02	3343	36.82
28	352	23	355	3.91	3698	40.73

Table 16–113 (continued). Grade 10 Reading—Forming a General Understanding

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
29	360	24	363	4.00	4061	44.72
30	368	24	347	3.82	4408	48.55
31	376	24	430	4.74	4838	53.28
32	385	25	461	5.08	5299	58.36
33	394	25	476	5.24	5775	63.60
34	403	26	459	5.06	6234	68.66
35	413	27	482	5.31	6716	73.96
36	423	28	452	4.98	7168	78.94
37	435	29	433	4.77	7601	83.71
38	447	30	400	4.41	8001	88.12
39	461	32	309	3.40	8310	91.52
40	476	34	266	2.93	8576	94.45
41	495	38	213	2.35	8789	96.80
42	518	43	164	1.81	8953	98.60
43	549	51	71	0.78	9024	99.38
44	600	71	48	0.53	9072	99.91
45	600	129	8	0.09	9080	100.00

Table 16–114. Grade 10 Reading— Analysis of General Content or Structure

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	130	4	0.04	4	0.04
1	100	74	22	0.24	26	0.29
2	149	55	37	0.41	63	0.69
3	185	47	115	1.27	178	1.96
4	214	43	171	1.88	349	3.84
5	238	40	255	2.81	604	6.65
6	260	39	364	4.01	968	10.66
7	281	38	483	5.32	1451	15.98
8	301	38	686	7.56	2137	23.54
9	322	38	762	8.39	2899	31.93
10	342	39	877	9.66	3776	41.59
11	365	40	1011	11.13	4787	52.72
12	389	42	1133	12.48	5920	65.20
13	416	46	1090	12.00	7010	77.20
14	449	51	966	10.64	7976	87.84
15	492	60	730	8.04	8706	95.88
16	558	79	305	3.36	9011	99.24
17	600	134	69	0.76	9080	100.00

Table 16–115. Grade 10 Writing—Overall Test

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	124	0	0.00	0	0.00
1	100	68	0	0.00	0	0.00
2	100	48	2	0.02	2	0.02
3	100	39	1	0.01	3	0.03
4	113	34	3	0.03	6	0.07
5	128	31	4	0.04	10	0.11
6	141	29	8	0.09	18	0.20
7	153	27	8	0.09	26	0.28
8	163	25	10	0.11	36	0.39
9	172	24	19	0.21	55	0.60
10	180	24	17	0.19	72	0.79
11	188	23	25	0.27	97	1.06
12	196	22	22	0.24	119	1.30
13	203	22	34	0.37	153	1.67
14	210	22	54	0.59	207	2.26
15	217	21	62	0.68	269	2.94
16	223	21	80	0.87	349	3.81
17	230	21	76	0.83	425	4.64
18	237	21	105	1.15	530	5.79
19	243	21	84	0.92	614	6.70
20	250	21	102	1.11	716	7.82
21	256	21	113	1.23	829	9.05
22	263	21	163	1.78	992	10.83
23	270	22	172	1.88	1164	12.71
24	277	22	191	2.09	1355	14.80
25	284	22	233	2.54	1588	17.34
26	291	22	238	2.60	1826	19.94
27	298	22	315	3.44	2141	23.38
28	306	23	318	3.47	2459	26.85
29	313	23	357	3.90	2816	30.75
30	321	23	356	3.89	3172	34.64
31	329	24	443	4.84	3615	39.47
32	338	24	444	4.85	4059	44.32
33	346	24	439	4.79	4498	49.12
34	355	25	504	5.50	5002	54.62
35	365	26	533	5.82	5535	60.44
36	374	26	544	5.94	6079	66.38
37	385	27	508	5.55	6587	71.93
38	396	28	465	5.08	7052	77.00
39	407	29	451	4.92	7503	81.93
40	420	30	387	4.23	7890	86.15
41	434	31	375	4.09	8265	90.25
42	449	33	262	2.86	8527	93.11
43	466	35	226	2.47	8753	95.58
44	484	37	159	1.74	8912	97.31
45	506	40	118	1.29	9030	98.60
46	531	43	64	0.70	9094	99.30
47	561	48	38	0.41	9132	99.72
48	600	56	20	0.22	9152	99.93
49	600	74	5	0.05	9157	99.99
50	600	128	1	0.01	9158	100.00

Table 16–116. Grade 10 Writing—Write Using a Variety of Forms

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	121	6	0.07	6	0.07
1	100	64	11	0.12	17	0.19
2	120	45	23	0.25	40	0.44
3	145	38	22	0.24	62	0.68
4	164	34	27	0.29	89	0.97
5	179	31	49	0.54	138	1.51
6	193	30	63	0.69	201	2.19
7	205	29	82	0.90	283	3.09
8	218	29	109	1.19	392	4.28
9	230	29	163	1.78	555	6.06
10	242	29	229	2.50	784	8.56
11	255	30	341	3.72	1125	12.28
12	270	32	438	4.78	1563	17.07
13	285	33	582	6.36	2145	23.42
14	302	35	768	8.39	2913	31.81
15	321	37	940	10.26	3853	42.07
16	341	38	1025	11.19	4878	53.26
17	364	40	1173	12.81	6051	66.07
18	389	43	1038	11.33	7089	77.41
19	417	45	841	9.18	7930	86.59
20	449	48	569	6.21	8499	92.80
21	485	51	335	3.66	8834	96.46
22	526	55	182	1.99	9016	98.45
23	575	61	107	1.17	9123	99.62
24	600	77	31	0.34	9154	99.96
25	600	129	4	0.04	9158	100.00

Table 16–117. Grade 10 Writing—Structures and Conventions of Writing

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	128	5	0.05	5	0.05
1	102	74	23	0.25	28	0.31
2	160	55	94	1.03	122	1.33
3	198	47	176	1.92	298	3.25
4	228	43	298	3.25	596	6.51
5	254	41	451	4.92	1047	11.43
6	278	40	672	7.34	1719	18.77
7	301	39	842	9.19	2561	27.96
8	324	40	1042	11.38	3603	39.34
9	348	41	1195	13.05	4798	52.39
10	375	44	1209	13.20	6007	65.59
11	406	49	1218	13.30	7225	78.89
12	446	57	1037	11.32	8262	90.22
13	507	76	676	7.38	8938	97.60
14	600	129	220	2.40	9158	100.00

Table 16–118. Grade 10 Writing—Revise

Raw Score	Scale Score	SS SE	Frequency	Frequency Percent	Cumulative Frequency	Cumulative Percent
0	100	127	16	0.17	16	0.17
1	110	73	61	0.67	77	0.84
2	167	55	164	1.79	241	2.63
3	207	49	260	2.84	501	5.47
4	239	45	446	4.87	947	10.34
5	268	44	629	6.87	1576	17.21
6	297	44	913	9.97	2489	27.18
7	327	46	1155	12.61	3644	39.79
8	360	50	1578	17.23	5222	57.02
9	402	58	1635	17.85	6857	74.87
10	465	76	1515	16.54	8372	91.42
11	560	129	786	8.58	9158	100.00