

APPENDIX L. SCORE EQUIVALENCE TABLES

TABLE L.1 Year 3 Numeracy Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
3	Numeracy	0	-5.34835	-6.50232	1.49923	60.86236	90.03303	1
3	Numeracy	1	-4.16268	-5.30420	0.89622	132.81288	53.82056	1
3	Numeracy	2	-3.56316	-4.69838	0.71820	169.19409	43.12995	1
3	Numeracy	3	-3.13660	-4.26734	0.62707	195.07927	37.65734	1
3	Numeracy	4	-2.79385	-3.92099	0.57088	215.87857	34.28297	1
3	Numeracy	5	-2.50071	-3.62478	0.53221	233.66683	31.96073	1
3	Numeracy	6	-2.24025	-3.36158	0.50402	249.47274	30.26784	1
3	Numeracy	7	-2.00301	-3.12185	0.48251	263.86920	28.97610	1
3	Numeracy	8	-1.78305	-2.89958	0.46571	277.21715	27.96721	2
3	Numeracy	9	-1.57649	-2.69085	0.45220	289.75198	27.15590	2
3	Numeracy	10	-1.38051	-2.49281	0.44124	301.64485	26.49772	2
3	Numeracy	11	-1.19298	-2.30332	0.43235	313.02426	25.96385	2
3	Numeracy	12	-1.01222	-2.12066	0.42520	323.99351	25.53447	3
3	Numeracy	13	-0.83681	-1.94341	0.41957	334.63788	25.19637	3
3	Numeracy	14	-0.66554	-1.77034	0.41532	345.03123	24.94115	3
3	Numeracy	15	-0.49729	-1.60032	0.41236	355.24141	24.76339	3
3	Numeracy	16	-0.33101	-1.43229	0.41064	365.33209	24.66010	3
3	Numeracy	17	-0.16572	-1.26527	0.41014	375.36212	24.63007	4
3	Numeracy	18	-0.00040	-1.09821	0.41089	385.39455	24.67511	4
3	Numeracy	19	0.16598	-0.93009	0.41292	395.49063	24.79702	4
3	Numeracy	20	0.33451	-0.75979	0.41632	405.71763	25.00120	4
3	Numeracy	21	0.50639	-0.58610	0.42120	416.14821	25.29426	4
3	Numeracy	22	0.68299	-0.40765	0.42776	426.86464	25.68821	5
3	Numeracy	23	0.86590	-0.22282	0.43617	437.96421	26.19325	5
3	Numeracy	24	1.05702	-0.02969	0.44673	449.56221	26.82741	5
3	Numeracy	25	1.25870	0.17411	0.45979	461.80098	27.61170	5
3	Numeracy	26	1.47388	0.39155	0.47576	474.85888	28.57074	5
3	Numeracy	27	1.70624	0.62635	0.49546	488.95928	29.75378	6
3	Numeracy	28	1.96068	0.88346	0.51950	504.39947	31.19745	6
3	Numeracy	29	2.24349	1.16924	0.54899	521.56137	32.96841	6
3	Numeracy	30	2.56296	1.49206	0.58544	540.94763	35.15734	6
3	Numeracy	31	2.93003	1.86299	0.63161	563.22304	37.92998	6
3	Numeracy	32	3.36039	2.29786	0.69321	589.33822	41.62923	6
3	Numeracy	33	3.88308	2.82604	0.78612	621.05693	47.20874	6
3	Numeracy	34	4.57873	3.52900	0.96330	663.27168	57.84891	6
3	Numeracy	35	5.85269	4.81633	1.57391	740.57951	94.51778	6

TABLE L.2 Year 3 Reading Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
3	Reading	0	-5.07050	-5.95147	1.49123	21.46566	100.30470	1
3	Reading	1	-3.89297	-4.64489	0.88827	109.35024	59.74776	1
3	Reading	2	-3.30266	-3.98988	0.70905	153.40822	47.69288	1
3	Reading	3	-2.88638	-3.52797	0.61669	184.47770	41.48046	1
3	Reading	4	-2.55500	-3.16027	0.55922	209.21033	37.61485	1
3	Reading	5	-2.27419	-2.84869	0.51933	230.16816	34.93173	1
3	Reading	6	-2.02689	-2.57428	0.49004	248.62582	32.96159	1
3	Reading	7	-1.80341	-2.32631	0.46760	265.30504	31.45221	1
3	Reading	8	-1.59769	-2.09804	0.44989	280.65918	30.26098	2
3	Reading	9	-1.40559	-1.88489	0.43575	294.99630	29.30988	2
3	Reading	10	-1.22424	-1.68366	0.42420	308.53165	28.53299	2
3	Reading	11	-1.05145	-1.49193	0.41473	321.42799	27.89601	2
3	Reading	12	-0.88556	-1.30786	0.40696	333.80911	27.37338	3
3	Reading	13	-0.72521	-1.12994	0.40064	345.77655	26.94827	3
3	Reading	14	-0.56929	-0.95693	0.39556	357.41374	26.60658	3
3	Reading	15	-0.41687	-0.78780	0.39160	368.78994	26.34022	3
3	Reading	16	-0.26711	-0.62163	0.38866	379.96704	26.14246	4
3	Reading	17	-0.11926	-0.45758	0.38667	391.00155	26.00861	4
3	Reading	18	0.02739	-0.29485	0.38560	401.94727	25.93664	4
3	Reading	19	0.17354	-0.13269	0.38545	412.85464	25.92655	4
3	Reading	20	0.31987	0.02968	0.38624	423.77615	25.97969	4
3	Reading	21	0.46708	0.19303	0.38800	434.76357	26.09807	5
3	Reading	22	0.61595	0.35821	0.39080	445.87408	26.28641	5
3	Reading	23	0.76731	0.52616	0.39475	457.17092	26.55210	5
3	Reading	24	0.92212	0.69794	0.40000	468.72536	26.90523	5
3	Reading	25	1.08147	0.87475	0.40675	480.61815	27.35925	6
3	Reading	26	1.24671	1.05810	0.41527	492.95083	27.93233	6
3	Reading	27	1.41952	1.24985	0.42596	505.84852	28.65138	6
3	Reading	28	1.60205	1.45239	0.43937	519.47198	29.55337	6
3	Reading	29	1.79723	1.66896	0.45626	534.03915	30.68945	6
3	Reading	30	2.00909	1.90404	0.47809	549.85135	32.15780	6
3	Reading	31	2.24372	2.16439	0.50691	567.36329	34.09632	6
3	Reading	32	2.51082	2.46076	0.54648	587.29804	36.75792	6
3	Reading	33	2.82750	2.81215	0.60383	610.93361	40.61546	6
3	Reading	34	3.22817	3.25673	0.69618	640.83743	46.82720	6
3	Reading	35	3.80208	3.89354	0.87536	683.67122	58.87940	6
3	Reading	36	4.96259	5.18124	1.47625	770.28587	99.29710	6

TABLE L.3 Year 3 Spelling Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
3	Spelling	0	-5.95359	-7.15642	1.64848	191.43630	62.82078	1
3	Spelling	1	-4.58162	-5.87033	1.02564	240.44701	39.08540	1
3	Spelling	2	-3.78515	-5.12372	0.84849	268.89905	32.33451	1
3	Spelling	3	-3.16623	-4.54355	0.75488	291.00835	28.76720	2
3	Spelling	4	-2.65139	-4.06094	0.69139	309.39979	26.34770	2
3	Spelling	5	-2.21166	-3.64873	0.64436	325.10842	24.55547	3
3	Spelling	6	-1.82611	-3.28732	0.60886	338.88114	23.20262	3
3	Spelling	7	-1.47867	-2.96163	0.58225	351.29263	22.18856	3
3	Spelling	8	-1.15814	-2.66116	0.56205	362.74304	21.41877	3
3	Spelling	9	-0.85680	-2.37869	0.54677	373.50749	20.83648	3
3	Spelling	10	-0.56940	-2.10928	0.53532	383.77425	20.40014	4
3	Spelling	11	-0.29218	-1.84941	0.52695	393.67745	20.08117	4
3	Spelling	12	-0.02225	-1.59638	0.52124	403.32000	19.86357	4
3	Spelling	13	0.24288	-1.34785	0.51800	412.79105	19.74010	4
3	Spelling	14	0.50558	-1.10159	0.51723	422.17560	19.71076	4
3	Spelling	15	0.76835	-0.85527	0.51914	431.56244	19.78354	5
3	Spelling	16	1.03399	-0.60626	0.52407	441.05179	19.97142	5
3	Spelling	17	1.30584	-0.35143	0.53261	450.76293	20.29686	5
3	Spelling	18	1.58815	-0.08679	0.54566	460.84791	20.79418	5
3	Spelling	19	1.88659	0.19297	0.56465	471.50909	21.51785	5
3	Spelling	20	2.20936	0.49553	0.59173	483.03914	22.54983	6
3	Spelling	21	2.56900	0.83266	0.63093	495.88659	24.04367	6
3	Spelling	22	2.98677	1.22427	0.68991	510.81018	26.29130	6
3	Spelling	23	3.50356	1.70871	0.78594	529.27137	29.95084	6
3	Spelling	24	4.21660	2.37712	0.97328	554.74334	37.09005	6
3	Spelling	25	5.54275	3.62025	1.60476	602.11692	61.15468	6

TABLE L.4 Year 3 Grammar & Punctuation Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
3	GP	0	-4.63340	-5.69939	1.50859	-11.00992	110.88497	1
3	GP	1	-3.43753	-4.31158	0.90425	90.99743	66.46454	1
3	GP	2	-2.82797	-3.60418	0.72611	142.99302	53.37082	1
3	GP	3	-2.39149	-3.09765	0.63548	180.22418	46.70930	1
3	GP	4	-2.03916	-2.68877	0.57964	210.27784	42.60492	1
3	GP	5	-1.73664	-2.33770	0.54145	236.08232	39.79787	1
3	GP	6	-1.46681	-2.02456	0.51416	259.09886	37.79199	1
3	GP	7	-1.22011	-1.73826	0.49353	280.14259	36.27563	2
3	GP	8	-0.99023	-1.47149	0.47793	299.75083	35.12900	2
3	GP	9	-0.77296	-1.21935	0.46598	318.28372	34.25064	2
3	GP	10	-0.56507	-0.97809	0.45704	336.01691	33.59353	3
3	GP	11	-0.36401	-0.74476	0.45064	353.16722	33.12312	3
3	GP	12	-0.16766	-0.51689	0.44651	369.91621	32.81955	3
3	GP	13	0.02590	-0.29227	0.44450	386.42631	32.67181	4
3	GP	14	0.21853	-0.06872	0.44459	402.85777	32.67843	4
3	GP	15	0.41200	0.15580	0.44683	419.36053	32.84307	4
3	GP	16	0.60823	0.38353	0.45140	436.09923	33.17898	5
3	GP	17	0.80940	0.61698	0.45860	453.25836	33.70820	5
3	GP	18	1.01807	0.85914	0.46894	471.05770	34.46821	5
3	GP	19	1.23748	1.11377	0.48320	489.77361	35.51635	6
3	GP	20	1.47209	1.38603	0.50250	509.78537	36.93495	6
3	GP	21	1.72814	1.68318	0.52904	531.62661	38.88570	6
3	GP	22	2.01558	2.01676	0.56649	556.14553	41.63837	6
3	GP	23	2.35158	2.40668	0.62218	584.80559	45.73172	6
3	GP	24	2.77086	2.89326	0.71261	620.57038	52.37854	6
3	GP	25	3.36252	3.57988	0.89063	671.03859	65.46343	6
3	GP	26	4.54008	4.94644	1.49275	771.48401	109.72069	6

TABLE L.5 Year 5 Numeracy Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
5	Numeracy	0	-5.41339	-5.31597	1.51856	132.10605	91.19385	3
5	Numeracy	1	-4.19720	-4.02340	0.90396	209.72856	54.28537	3
5	Numeracy	2	-3.58223	-3.36981	0.71902	248.97850	43.17920	3
5	Numeracy	3	-3.15179	-2.91234	0.62204	276.45088	37.35527	3
5	Numeracy	4	-2.81345	-2.55275	0.56121	298.04528	33.70226	3
5	Numeracy	5	-2.53053	-2.25207	0.51862	316.10197	31.14461	3
5	Numeracy	6	-2.28437	-1.99045	0.48713	331.81300	29.25354	3
5	Numeracy	7	-2.06421	-1.75646	0.46295	345.86476	27.80147	3
5	Numeracy	8	-1.86328	-1.54291	0.44389	358.68905	26.65686	3
5	Numeracy	9	-1.67702	-1.34496	0.42859	370.57651	25.73805	3
5	Numeracy	10	-1.50220	-1.15916	0.41616	381.73433	24.99159	4
5	Numeracy	11	-1.33649	-0.98304	0.40593	392.31083	24.37725	4
5	Numeracy	12	-1.17808	-0.81468	0.39751	402.42133	23.87161	4
5	Numeracy	13	-1.02555	-0.65257	0.39060	412.15650	23.45664	4
5	Numeracy	14	-0.87776	-0.49550	0.38498	421.58900	23.11914	4
5	Numeracy	15	-0.73375	-0.34245	0.38049	430.78009	22.84951	5
5	Numeracy	16	-0.59270	-0.19254	0.37702	439.78261	22.64112	5
5	Numeracy	17	-0.45386	-0.04498	0.37448	448.64401	22.48859	5
5	Numeracy	18	-0.31658	0.10092	0.37283	457.40572	22.38950	5
5	Numeracy	19	-0.18021	0.24585	0.37202	466.10918	22.34086	5
5	Numeracy	20	-0.04414	0.39047	0.37205	474.79402	22.34266	5
5	Numeracy	21	0.09222	0.53539	0.37294	483.49688	22.39611	6
5	Numeracy	22	0.22954	0.68134	0.37469	492.26159	22.50120	6
5	Numeracy	23	0.36848	0.82900	0.37736	501.12899	22.66154	6
5	Numeracy	24	0.50976	0.97915	0.38100	510.14593	22.88013	6
5	Numeracy	25	0.65417	1.13263	0.38574	519.36284	23.16479	6
5	Numeracy	26	0.80262	1.29041	0.39163	528.83798	23.51850	6
5	Numeracy	27	0.95616	1.45359	0.39885	538.63740	23.95208	7
5	Numeracy	28	1.11601	1.62348	0.40755	548.83978	24.47454	7
5	Numeracy	29	1.28363	1.80162	0.41797	559.53759	25.10029	7
5	Numeracy	30	1.46079	1.98991	0.43036	570.84494	25.84434	7
5	Numeracy	31	1.64967	2.19065	0.44529	582.89995	26.74093	8
5	Numeracy	32	1.85309	2.40685	0.46316	595.88338	27.81408	8
5	Numeracy	33	2.07466	2.64233	0.48479	610.02462	29.11302	8
5	Numeracy	34	2.31926	2.90229	0.51138	625.63596	30.70982	8
5	Numeracy	35	2.59376	3.19403	0.54485	643.15578	32.71979	8
5	Numeracy	36	2.90860	3.52864	0.58860	663.25006	35.34711	8
5	Numeracy	37	3.28123	3.92467	0.64999	687.03279	39.03375	8
5	Numeracy	38	3.74616	4.41880	0.74548	716.70670	44.76820	8
5	Numeracy	39	4.39180	5.10499	0.92747	757.91436	55.69721	8
5	Numeracy	40	5.62953	6.42045	1.53988	836.91148	92.47418	8

TABLE L.6 Year 5 Reading Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
5	Reading	0	-5.06234	-3.81429	1.48253	165.21894	99.71951	3
5	Reading	1	-3.89516	-2.78799	0.88123	234.25103	59.27423	3
5	Reading	2	-3.31424	-2.27718	0.70247	268.60967	47.25029	3
5	Reading	3	-2.90630	-1.91848	0.61051	292.73693	41.06477	3
5	Reading	4	-2.58225	-1.63355	0.55335	311.90220	37.22002	3
5	Reading	5	-2.30768	-1.39212	0.51411	328.14152	34.58061	3
5	Reading	6	-2.06571	-1.17935	0.48532	342.45308	32.64411	3
5	Reading	7	-1.84674	-0.98681	0.46338	355.40391	31.16836	3
5	Reading	8	-1.64482	-0.80926	0.44611	367.34647	30.00673	3
5	Reading	9	-1.45593	-0.64317	0.43238	378.51819	29.08320	4
5	Reading	10	-1.27731	-0.48611	0.42117	389.08253	28.32919	4
5	Reading	11	-1.10689	-0.33626	0.41197	399.16190	27.71037	4
5	Reading	12	-0.94306	-0.19221	0.40441	408.85115	27.20186	4
5	Reading	13	-0.78456	-0.05284	0.39821	418.22560	26.78483	4
5	Reading	14	-0.63035	0.08276	0.39319	427.34647	26.44716	5
5	Reading	15	-0.47957	0.21534	0.38917	436.26421	26.17677	5
5	Reading	16	-0.33146	0.34557	0.38609	445.02388	25.96960	5
5	Reading	17	-0.18535	0.47405	0.38385	453.66584	25.81893	5
5	Reading	18	-0.04063	0.60130	0.38240	462.22506	25.72140	5
5	Reading	19	0.10324	0.72781	0.38172	470.73451	25.67566	5
5	Reading	20	0.24685	0.85408	0.38182	479.22782	25.68238	6
5	Reading	21	0.39076	0.98062	0.38272	487.73929	25.74292	6
5	Reading	22	0.53557	1.10795	0.38448	496.30389	25.86130	6
5	Reading	23	0.68191	1.23663	0.38717	504.95931	26.04224	6
5	Reading	24	0.83053	1.36731	0.39091	513.74924	26.29381	6
5	Reading	25	0.98227	1.50074	0.39587	522.72415	26.62743	6
5	Reading	26	1.13817	1.63782	0.40226	531.94458	27.05724	7
5	Reading	27	1.29950	1.77968	0.41039	541.48651	27.60409	7
5	Reading	28	1.46787	1.92773	0.42067	551.44481	28.29555	7
5	Reading	29	1.64545	2.08387	0.43360	561.94727	29.16527	7
5	Reading	30	1.83503	2.25057	0.45023	573.16002	30.28385	7
5	Reading	31	2.04077	2.43148	0.47169	585.32858	31.72732	8
5	Reading	32	2.26872	2.63191	0.50026	598.81012	33.64902	8
5	Reading	33	2.52863	2.86045	0.53968	614.18242	36.30053	8
5	Reading	34	2.83764	3.13216	0.59698	632.45847	40.15471	8
5	Reading	35	3.23027	3.47740	0.68938	655.68037	46.36981	8
5	Reading	36	3.79581	3.97468	0.86859	689.12894	58.42403	8
5	Reading	37	4.94775	4.98758	1.46852	757.25970	98.77716	8

TABLE L.7 Year 5 Spelling Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
5	Spelling	0	-5.65652	-4.53922	1.73445	291.17335	66.09695	3
5	Spelling	1	-4.10874	-3.14854	1.03851	344.16981	39.57585	3
5	Spelling	2	-3.28181	-2.40554	0.81437	372.48428	31.03426	3
5	Spelling	3	-2.73057	-1.91025	0.69945	391.35894	26.65485	4
5	Spelling	4	-2.30657	-1.52929	0.63025	405.87668	24.01776	4
5	Spelling	5	-1.95168	-1.21042	0.58481	418.02828	22.28612	4
5	Spelling	6	-1.63926	-0.92971	0.55330	428.72566	21.08532	5
5	Spelling	7	-1.35490	-0.67421	0.53086	438.46233	20.23017	5
5	Spelling	8	-1.08988	-0.43609	0.51467	447.53668	19.61320	5
5	Spelling	9	-0.83819	-0.20995	0.50329	456.15449	19.17953	5
5	Spelling	10	-0.59543	0.00817	0.49575	464.46667	18.89219	5
5	Spelling	11	-0.35811	0.22140	0.49147	472.59251	18.72909	5
5	Spelling	12	-0.12325	0.43243	0.49008	480.63450	18.67612	6
5	Spelling	13	0.11184	0.64365	0.49139	488.68374	18.72604	6
5	Spelling	14	0.34974	0.85741	0.49535	496.82977	18.87695	6
5	Spelling	15	0.59306	1.07603	0.50203	505.16101	19.13151	6
5	Spelling	16	0.84461	1.30205	0.51162	513.77425	19.49697	6
5	Spelling	17	1.10755	1.53830	0.52454	522.77733	19.98933	6
5	Spelling	18	1.38572	1.78823	0.54145	532.30174	20.63374	7
5	Spelling	19	1.68413	2.05636	0.56348	542.51972	21.47327	7
5	Spelling	20	2.00996	2.34911	0.59271	553.67593	22.58717	7
5	Spelling	21	2.37433	2.67650	0.63288	566.15220	24.11798	7
5	Spelling	22	2.79632	3.05566	0.69113	580.60135	26.33779	7
5	Spelling	23	3.31260	3.51954	0.78449	598.27903	29.89558	8
5	Spelling	24	4.01341	4.14921	0.96643	622.27468	36.82901	8
5	Spelling	25	5.30975	5.31398	1.58692	666.66209	60.47483	8

TABLE L.8 Year 5 Grammar & Punctuation Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
5	GP	0	-5.00922	-3.98828	1.57079	114.76075	115.45682	3
5	GP	1	-3.72748	-2.84535	0.94673	198.76883	69.58692	3
5	GP	2	-3.05346	-2.24433	0.75998	242.94524	55.86035	3
5	GP	3	-2.57077	-1.81391	0.66328	274.58214	48.75266	3
5	GP	4	-2.18522	-1.47012	0.60256	299.85153	44.28960	3
5	GP	5	-1.85794	-1.17828	0.56101	321.30246	41.23558	3
5	GP	6	-1.56885	-0.92050	0.53112	340.24991	39.03859	3
5	GP	7	-1.30615	-0.68625	0.50902	357.46784	37.41419	3
5	GP	8	-1.06224	-0.46876	0.49251	373.45388	36.20066	3
5	GP	9	-0.83194	-0.26340	0.48016	388.54833	35.29291	4
5	GP	10	-0.61139	-0.06673	0.47119	403.00404	34.63359	4
5	GP	11	-0.39763	0.12387	0.46505	417.01360	34.18229	4
5	GP	12	-0.18822	0.31061	0.46136	430.73943	33.91106	5
5	GP	13	0.01893	0.49532	0.45995	444.31606	33.80742	5
5	GP	14	0.22583	0.67981	0.46071	457.87652	33.86329	5
5	GP	15	0.43439	0.86579	0.46370	471.54649	34.08306	5
5	GP	16	0.64665	1.05506	0.46905	485.45829	34.47630	6
5	GP	17	0.86485	1.24963	0.47712	499.75965	35.06946	6
5	GP	18	1.09177	1.45197	0.48829	514.63212	35.89048	6
5	GP	19	1.33079	1.66511	0.50348	530.29842	37.00698	7
5	GP	20	1.58666	1.89327	0.52380	547.06872	38.50055	7
5	GP	21	1.86611	2.14245	0.55161	565.38405	40.54465	7
5	GP	22	2.17992	2.42228	0.59049	585.95222	43.40243	8
5	GP	23	2.54656	2.74921	0.64810	609.98236	47.63690	8
5	GP	24	3.00277	3.15601	0.74109	639.88313	54.47189	8
5	GP	25	3.64052	3.72469	0.92321	681.68247	67.85814	8
5	GP	26	4.87631	4.82665	1.53753	762.67916	113.01213	8

TABLE L.9 Year 7 Numeracy Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	Numeracy	0	-5.92480	-4.30710	1.49600	192.69157	89.83906	4
7	Numeracy	1	-4.73661	-3.12271	0.88630	263.81756	53.22484	4
7	Numeracy	2	-4.14409	-2.53208	0.70141	299.28657	42.12167	4
7	Numeracy	3	-3.73326	-2.12257	0.60381	323.87881	36.26051	4
7	Numeracy	4	-3.41383	-1.80416	0.54110	343.00024	32.49460	4
7	Numeracy	5	-3.15012	-1.54129	0.49660	358.78633	29.82224	4
7	Numeracy	6	-2.92403	-1.31593	0.46293	372.31984	27.80026	4
7	Numeracy	7	-2.72499	-1.11753	0.43671	384.23433	26.22568	4
7	Numeracy	8	-2.54634	-0.93945	0.41546	394.92854	24.94956	4
7	Numeracy	9	-2.38351	-0.77714	0.39791	404.67571	23.89563	4
7	Numeracy	10	-2.23329	-0.62740	0.38318	413.66803	23.01105	4
7	Numeracy	11	-2.09332	-0.48788	0.37068	422.04660	22.26039	4
7	Numeracy	12	-1.96179	-0.35677	0.35995	429.92013	21.61602	5
7	Numeracy	13	-1.83731	-0.23269	0.35069	437.37149	21.05993	5
7	Numeracy	14	-1.71880	-0.11456	0.34263	444.46553	20.57591	5
7	Numeracy	15	-1.60535	-0.00147	0.33558	451.25691	20.15253	5
7	Numeracy	16	-1.49624	0.10729	0.32944	457.78825	19.78381	5
7	Numeracy	17	-1.39087	0.21233	0.32404	464.09620	19.45952	5
7	Numeracy	18	-1.28872	0.31415	0.31928	470.21079	19.17367	5
7	Numeracy	19	-1.18937	0.41318	0.31511	476.15782	18.92325	5
7	Numeracy	20	-1.09243	0.50981	0.31145	481.96073	18.70346	6
7	Numeracy	21	-0.99757	0.60437	0.30826	487.63932	18.51189	6
7	Numeracy	22	-0.90450	0.69714	0.30549	493.21043	18.34554	6
7	Numeracy	23	-0.81298	0.78837	0.30310	498.68905	18.20202	6
7	Numeracy	24	-0.72274	0.87832	0.30109	504.09080	18.08131	6
7	Numeracy	25	-0.63360	0.96717	0.29940	509.42650	17.97982	6
7	Numeracy	26	-0.54534	1.05515	0.29803	514.70994	17.89755	6
7	Numeracy	27	-0.45780	1.14241	0.29695	519.95016	17.83269	6
7	Numeracy	28	-0.37079	1.22914	0.29615	525.15854	17.78465	6
7	Numeracy	29	-0.28415	1.31550	0.29562	530.34470	17.75282	7
7	Numeracy	30	-0.19773	1.40165	0.29536	535.51826	17.73721	7
7	Numeracy	31	-0.11138	1.48772	0.29535	540.68700	17.73661	7
7	Numeracy	32	-0.02494	1.57388	0.29560	545.86116	17.75162	7
7	Numeracy	33	0.06173	1.66028	0.29610	551.04972	17.78165	7
7	Numeracy	34	0.14877	1.74704	0.29685	556.25991	17.82669	7
7	Numeracy	35	0.23635	1.83434	0.29784	561.50252	17.88614	7
7	Numeracy	36	0.32460	1.92231	0.29908	566.78537	17.96061	7
7	Numeracy	37	0.41369	2.01111	0.30059	572.11806	18.05129	7
7	Numeracy	38	0.50377	2.10090	0.30237	577.51021	18.15818	7
7	Numeracy	39	0.59501	2.19185	0.30442	582.97202	18.28129	8
7	Numeracy	40	0.68759	2.28413	0.30676	588.51369	18.42181	8
7	Numeracy	41	0.78170	2.37794	0.30940	594.14725	18.58035	8
7	Numeracy	42	0.87754	2.47348	0.31236	599.88470	18.75811	8
7	Numeracy	43	0.97533	2.57095	0.31566	605.73805	18.95628	8
7	Numeracy	44	1.07530	2.67060	0.31932	611.72232	19.17607	8

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	Numeracy	45	1.17772	2.77270	0.32338	617.85371	19.41989	8
7	Numeracy	46	1.28289	2.87753	0.32787	624.14905	19.68953	8
7	Numeracy	47	1.39112	2.98541	0.33283	630.62755	19.98739	8
7	Numeracy	48	1.50280	3.09674	0.33840	637.31324	20.32188	9
7	Numeracy	49	1.61837	3.21194	0.34456	644.23132	20.69181	9
7	Numeracy	50	1.73834	3.33152	0.35145	651.41244	21.10557	9
7	Numeracy	51	1.86332	3.45610	0.35919	658.89383	21.57038	9
7	Numeracy	52	1.99406	3.58642	0.36795	666.71991	22.09644	9
7	Numeracy	53	2.13150	3.72342	0.37796	674.94715	22.69757	9
7	Numeracy	54	2.27680	3.86826	0.38952	683.64521	23.39178	9
7	Numeracy	55	2.43150	4.02246	0.40303	692.90536	24.20310	9
7	Numeracy	56	2.59764	4.18807	0.41908	702.85071	25.16695	9
7	Numeracy	57	2.77804	4.36789	0.43852	713.64941	26.33437	9
7	Numeracy	58	2.97674	4.56596	0.46261	725.54408	27.78105	9
7	Numeracy	59	3.19976	4.78827	0.49375	738.89443	29.65109	9
7	Numeracy	60	3.45687	5.04455	0.53543	754.28477	32.15410	9
7	Numeracy	61	3.76518	5.35188	0.59506	772.74081	35.73505	9
7	Numeracy	62	4.15938	5.74481	0.68943	796.33738	41.40223	9
7	Numeracy	63	4.72886	6.31247	0.87048	830.42698	52.27480	9
7	Numeracy	64	5.88727	7.46718	1.47308	899.77060	88.46265	9

TABLE L.10 Year 7 Non-Calculator Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	NC	0	-5.54170	-3.92522	1.57760	215.62455	94.73937	4
7	NC	1	-4.25595	-2.64359	0.95659	292.59008	57.44595	4
7	NC	2	-3.56558	-1.95543	0.77120	333.91605	46.31276	4
7	NC	3	-3.06452	-1.45597	0.67269	363.91004	40.39695	4
7	NC	4	-2.66434	-1.05707	0.60909	387.86512	36.57759	4
7	NC	5	-2.32794	-0.72175	0.56384	408.00204	33.86020	4
7	NC	6	-2.03506	-0.42980	0.53001	425.53447	31.82861	4
7	NC	7	-1.77335	-0.16893	0.50388	441.20046	30.25943	5
7	NC	8	-1.53462	0.06904	0.48360	455.49123	29.04156	5
7	NC	9	-1.31333	0.28962	0.46746	468.73769	28.07230	5
7	NC	10	-1.10535	0.49693	0.45467	481.18724	27.30423	6
7	NC	11	-0.90758	0.69407	0.44465	493.02606	26.70250	6
7	NC	12	-0.71754	0.88350	0.43698	504.40187	26.24189	6
7	NC	13	-0.53320	1.06725	0.43137	515.43658	25.90500	6
7	NC	14	-0.35283	1.24704	0.42761	526.23349	25.67920	6
7	NC	15	-0.17487	1.42443	0.42556	536.88626	25.55609	7
7	NC	16	0.00209	1.60083	0.42514	547.47958	25.53087	7
7	NC	17	0.17943	1.77760	0.42631	558.09512	25.60113	7
7	NC	18	0.35850	1.95610	0.42908	568.81456	25.76748	7
7	NC	19	0.54074	2.13775	0.43351	579.72316	26.03351	7
7	NC	20	0.72763	2.32405	0.43969	590.91100	26.40464	8
7	NC	21	0.92085	2.51665	0.44776	602.47718	26.88926	8
7	NC	22	1.12228	2.71743	0.45794	614.53459	27.50060	8
7	NC	23	1.33413	2.92861	0.47052	627.21655	28.25607	8
7	NC	24	1.55906	3.15282	0.48593	640.68100	29.18148	9
7	NC	25	1.80040	3.39338	0.50495	655.12731	30.32368	9
7	NC	26	2.06261	3.65475	0.52868	670.82332	31.74874	9
7	NC	27	2.35199	3.94321	0.55907	688.14617	33.57374	9
7	NC	28	2.67836	4.26853	0.59972	707.68256	36.01489	9
7	NC	29	3.05881	4.64777	0.65764	730.45700	39.49315	9
7	NC	30	3.52785	5.11531	0.75002	758.53411	45.04084	9
7	NC	31	4.17466	5.76005	0.93005	797.25258	55.85215	9
7	NC	32	5.41256	6.99398	1.54152	871.35359	92.57266	9

TABLE L.11 Year 7 Calculator Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	CA	0	-4.83292	-3.21871	1.47962	258.05249	88.85539	4
7	CA	1	-3.66885	-2.05837	0.87878	327.73421	52.77324	4
7	CA	2	-3.09156	-1.48292	0.69963	362.29162	42.01477	4
7	CA	3	-2.68731	-1.07997	0.60790	386.48991	36.50613	4
7	CA	4	-2.36676	-0.76044	0.55122	405.67860	33.10233	4
7	CA	5	-2.09527	-0.48982	0.51258	421.93010	30.78189	4
7	CA	6	-1.85559	-0.25091	0.48484	436.27732	29.11602	5
7	CA	7	-1.63787	-0.03388	0.46422	449.31059	27.87773	5
7	CA	8	-1.43588	0.16746	0.44866	461.40163	26.94331	5
7	CA	9	-1.24548	0.35725	0.43672	472.79906	26.22628	5
7	CA	10	-1.06359	0.53856	0.42767	483.68724	25.68280	6
7	CA	11	-0.88796	0.71363	0.42092	494.20070	25.27744	6
7	CA	12	-0.71682	0.88422	0.41609	504.44511	24.98739	6
7	CA	13	-0.54871	1.05179	0.41290	514.50817	24.79582	6
7	CA	14	-0.38239	1.21758	0.41115	524.46433	24.69073	6
7	CA	15	-0.21677	1.38267	0.41072	534.37845	24.66491	7
7	CA	16	-0.05082	1.54809	0.41153	544.31239	24.71355	7
7	CA	17	0.11637	1.71474	0.41358	554.32020	24.83666	7
7	CA	18	0.28585	1.88368	0.41683	564.46553	25.03183	7
7	CA	19	0.45861	2.05589	0.42135	574.80723	25.30327	7
7	CA	20	0.63573	2.23244	0.42722	585.40956	25.65578	8
7	CA	21	0.81844	2.41457	0.43460	596.34699	26.09897	8
7	CA	22	1.00814	2.60366	0.44369	607.70238	26.64485	8
7	CA	23	1.20653	2.80141	0.45482	619.57783	27.31324	8
7	CA	24	1.41573	3.00994	0.46846	632.10065	28.13236	8
7	CA	25	1.63854	3.23204	0.48535	645.43839	29.14665	9
7	CA	26	1.87880	3.47153	0.50697	659.82044	30.44499	9
7	CA	27	2.14243	3.73432	0.53516	675.60173	32.13788	9
7	CA	28	2.43882	4.02976	0.57375	693.34374	34.45532	9
7	CA	29	2.78477	4.37460	0.62979	714.05237	37.82068	9
7	CA	30	3.21440	4.80286	0.72069	739.77060	43.27949	9
7	CA	31	3.81672	5.40325	0.89849	775.82573	53.95688	9
7	CA	32	5.00484	6.58757	1.50156	846.94751	90.17295	9

TABLE L.12 Year 7 Reading Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	Reading	0	-5.27898	-4.33716	1.46701	130.04910	98.67559	4
7	Reading	1	-4.12759	-3.09573	0.86596	213.55149	58.24712	4
7	Reading	2	-3.56383	-2.48788	0.68549	254.43734	46.10816	4
7	Reading	3	-3.17440	-2.06800	0.59133	282.67976	39.77467	4
7	Reading	4	-2.87010	-1.73990	0.53199	304.74877	35.78328	4
7	Reading	5	-2.61646	-1.46643	0.49062	323.14320	33.00061	4
7	Reading	6	-2.39649	-1.22926	0.45983	339.09598	30.92958	4
7	Reading	7	-2.20052	-1.01796	0.43589	353.30867	29.31930	4
7	Reading	8	-2.02255	-0.82607	0.41672	366.21578	28.02986	4
7	Reading	9	-1.85853	-0.64923	0.40101	378.11058	26.97316	4
7	Reading	10	-1.70564	-0.48438	0.38791	389.19890	26.09202	4
7	Reading	11	-1.56181	-0.32930	0.37685	399.63005	25.34809	4
7	Reading	12	-1.42548	-0.18231	0.36740	409.51705	24.71245	4
7	Reading	13	-1.29539	-0.04205	0.35934	418.95137	24.17031	4
7	Reading	14	-1.17057	0.09253	0.35238	428.00363	23.70216	5
7	Reading	15	-1.05024	0.22227	0.34636	436.73034	23.29724	5
7	Reading	16	-0.93370	0.34792	0.34116	445.18195	22.94747	5
7	Reading	17	-0.82039	0.47009	0.33668	453.39948	22.64613	5
7	Reading	18	-0.70983	0.58930	0.33285	461.41791	22.38851	5
7	Reading	19	-0.60157	0.70603	0.32961	469.26952	22.17058	5
7	Reading	20	-0.49525	0.82066	0.32689	476.97989	21.98762	5
7	Reading	21	-0.39048	0.93362	0.32470	484.57792	21.84032	6
7	Reading	22	-0.28697	1.04523	0.32297	492.08516	21.72395	6
7	Reading	23	-0.18443	1.15579	0.32169	499.52176	21.63786	6
7	Reading	24	-0.08255	1.26563	0.32084	506.90993	21.58068	6
7	Reading	25	0.01889	1.37501	0.32041	514.26717	21.55176	6
7	Reading	26	0.12020	1.48424	0.32040	521.61431	21.55109	6
7	Reading	27	0.22163	1.59360	0.32081	528.97020	21.57866	6
7	Reading	28	0.32345	1.70338	0.32164	536.35434	21.63449	7
7	Reading	29	0.42592	1.81387	0.32292	543.78624	21.72059	7
7	Reading	30	0.52934	1.92537	0.32466	551.28607	21.83763	7
7	Reading	31	0.63401	2.03823	0.32689	558.87738	21.98762	7
7	Reading	32	0.74026	2.15279	0.32965	566.58304	22.17327	7
7	Reading	33	0.84845	2.26944	0.33299	574.42927	22.39793	7
7	Reading	34	0.95899	2.38862	0.33697	582.44569	22.66564	8
7	Reading	35	1.07236	2.51086	0.34166	590.66792	22.98110	8
7	Reading	36	1.18910	2.63673	0.34718	599.13432	23.35239	8
7	Reading	37	1.30986	2.76693	0.35365	607.89198	23.78758	8
7	Reading	38	1.43542	2.90231	0.36123	616.99805	24.29744	8
7	Reading	39	1.56674	3.04390	0.37014	626.52183	24.89675	8
7	Reading	40	1.70501	3.19298	0.38075	636.54940	25.61041	9
7	Reading	41	1.85182	3.35127	0.39343	647.19648	26.46331	9
7	Reading	42	2.00921	3.52097	0.40876	658.61102	27.49445	9
7	Reading	43	2.18002	3.70514	0.42763	670.99886	28.76370	9
7	Reading	44	2.36828	3.90812	0.45135	684.65191	30.35918	9

Year	Domain	Raw Score	Delta- Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	Reading	45	2.58005	4.13645	0.48203	700.01009	32.42282	9
7	Reading	46	2.82504	4.40060	0.52324	717.77763	35.19473	9
7	Reading	47	3.12023	4.71887	0.58277	739.18544	39.19890	9
7	Reading	48	3.50022	5.12858	0.67709	766.74379	45.54315	9
7	Reading	49	4.05427	5.72595	0.85777	806.92473	57.69624	9
7	Reading	50	5.19578	6.95673	1.45783	889.71077	98.05812	9

TABLE L.13 Year 7 Spelling Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	Spelling	0	-5.14759	-2.94208	1.51230	352.03765	57.63119	4
7	Spelling	1	-3.94934	-1.73700	0.90927	397.96121	34.65074	4
7	Spelling	2	-3.33485	-1.11901	0.73286	421.51176	27.92805	4
7	Spelling	3	-2.89079	-0.67242	0.64415	438.53054	24.54746	5
7	Spelling	4	-2.52841	-0.30797	0.59011	452.41912	22.48809	5
7	Spelling	5	-2.21379	0.00844	0.55343	464.47696	21.09028	5
7	Spelling	6	-1.93045	0.29340	0.52690	475.33631	20.07927	5
7	Spelling	7	-1.66939	0.55595	0.50674	485.34164	19.31100	6
7	Spelling	8	-1.42515	0.80158	0.49089	494.70218	18.70699	6
7	Spelling	9	-1.19417	1.03388	0.47810	503.55474	18.21958	6
7	Spelling	10	-0.97387	1.25543	0.46769	511.99764	17.82287	6
7	Spelling	11	-0.76223	1.46828	0.45927	520.10899	17.50200	6
7	Spelling	12	-0.55753	1.67414	0.45259	527.95397	17.24744	6
7	Spelling	13	-0.35823	1.87458	0.44753	535.59239	17.05461	7
7	Spelling	14	-0.16291	2.07101	0.44402	543.07801	16.92085	7
7	Spelling	15	0.02981	2.26483	0.44203	550.46416	16.84501	7
7	Spelling	16	0.22132	2.45743	0.44159	557.80382	16.82825	7
7	Spelling	17	0.41296	2.65017	0.44273	565.14881	16.87169	7
7	Spelling	18	0.60618	2.84449	0.44555	572.55402	16.97915	7
7	Spelling	19	0.80253	3.04196	0.45023	580.07927	17.15750	7
7	Spelling	20	1.00376	3.24433	0.45700	587.79124	17.41549	8
7	Spelling	21	1.21195	3.45371	0.46621	595.77036	17.76647	8
7	Spelling	22	1.42960	3.67260	0.47841	604.11189	18.23139	8
7	Spelling	23	1.66004	3.90435	0.49428	612.94349	18.83617	8
7	Spelling	24	1.90765	4.15338	0.51528	622.43360	19.63645	8
7	Spelling	25	2.17895	4.42622	0.54318	632.83107	20.69967	8
7	Spelling	26	2.48394	4.73295	0.58194	644.52003	22.17675	9
7	Spelling	27	2.84008	5.09112	0.63859	658.16928	24.33558	9
7	Spelling	28	3.28221	5.53577	0.73019	675.11413	27.82630	9
7	Spelling	29	3.89978	6.15686	0.90959	698.78282	34.66293	9
7	Spelling	30	5.10646	7.37042	1.51664	745.02953	57.79658	9

TABLE L.14 Year 7 Grammar & Punctuation Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
7	GP	0	-4.88008	-4.37696	1.51264	86.19184	111.18265	4
7	GP	1	-3.68023	-3.04549	0.90848	184.05807	66.77545	4
7	GP	2	-3.06554	-2.36336	0.73087	234.19625	53.72069	4
7	GP	3	-2.62311	-1.87240	0.64075	270.28298	47.09666	4
7	GP	4	-2.26434	-1.47427	0.58527	299.54649	43.01874	4
7	GP	5	-1.95523	-1.13125	0.54731	324.75928	40.22859	4
7	GP	6	-1.67899	-0.82471	0.51978	347.29070	38.20507	4
7	GP	7	-1.42607	-0.54404	0.49906	367.92062	36.68210	4
7	GP	8	-1.19047	-0.28260	0.48299	387.13708	35.50092	4
7	GP	9	-0.96801	-0.03573	0.47043	405.28262	34.57773	4
7	GP	10	-0.75561	0.19997	0.46065	422.60713	33.85888	4
7	GP	11	-0.55091	0.42712	0.45315	439.30320	33.30761	5
7	GP	12	-0.35194	0.64792	0.44767	455.53252	32.90481	5
7	GP	13	-0.15706	0.86418	0.44396	471.42815	32.63212	5
7	GP	14	0.03524	1.07757	0.44195	487.11283	32.48438	6
7	GP	15	0.22642	1.28972	0.44162	502.70636	32.46012	6
7	GP	16	0.41787	1.50218	0.44301	518.32268	32.56229	6
7	GP	17	0.61110	1.71660	0.44625	534.08306	32.80044	7
7	GP	18	0.80780	1.93488	0.45156	550.12716	33.19074	7
7	GP	19	1.00991	2.15916	0.45932	566.61227	33.76112	7
7	GP	20	1.21986	2.39214	0.47005	583.73686	34.54980	8
7	GP	21	1.44079	2.63731	0.48459	601.75744	35.61852	8
7	GP	22	1.67709	2.89953	0.50406	621.03124	37.04961	8
7	GP	23	1.93499	3.18572	0.53074	642.06689	39.01066	9
7	GP	24	2.22442	3.50691	0.56830	665.67512	41.77141	9
7	GP	25	2.56265	3.88224	0.62411	693.26277	45.87358	9
7	GP	26	2.98450	4.35037	0.71464	727.67144	52.52775	9
7	GP	27	3.57917	5.01027	0.89287	776.17567	65.62808	9
7	GP	28	4.76032	6.32099	1.49572	872.51672	109.93899	9

TABLE L.15 Year 9 Numeracy Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	Numeracy	0	-5.86141	-3.86920	1.47133	218.98871	88.35755	5
9	Numeracy	1	-4.70447	-2.62503	0.86861	293.70466	52.16250	5
9	Numeracy	2	-4.13680	-2.01455	0.68718	330.36572	41.26712	5
9	Numeracy	3	-3.74481	-1.59301	0.59232	355.68040	35.57050	5
9	Numeracy	4	-3.43908	-1.26423	0.53222	375.42457	31.96133	5
9	Numeracy	5	-3.18494	-0.99092	0.49008	391.83762	29.43070	5
9	Numeracy	6	-2.96523	-0.75465	0.45857	406.02630	27.53843	5
9	Numeracy	7	-2.77015	-0.54486	0.43406	418.62479	26.06654	5
9	Numeracy	8	-2.59359	-0.35499	0.41428	430.02702	24.87869	5
9	Numeracy	9	-2.43147	-0.18064	0.39797	440.49724	23.89923	5
9	Numeracy	10	-2.28090	-0.01872	0.38428	450.22099	23.07711	5
9	Numeracy	11	-2.13976	0.13306	0.37263	459.33582	22.37749	5
9	Numeracy	12	-2.00648	0.27639	0.36261	467.94319	21.77576	5
9	Numeracy	13	-1.87981	0.41261	0.35391	476.12359	21.25330	5
9	Numeracy	14	-1.75876	0.54279	0.34631	483.94127	20.79690	6
9	Numeracy	15	-1.64255	0.66776	0.33961	491.44607	20.39455	6
9	Numeracy	16	-1.53050	0.78826	0.33375	498.68244	20.04264	6
9	Numeracy	17	-1.42208	0.90486	0.32857	505.68460	19.73156	6
9	Numeracy	18	-1.31681	1.01806	0.32397	512.48258	19.45532	6
9	Numeracy	19	-1.21430	1.12830	0.31991	519.10281	19.21151	6
9	Numeracy	20	-1.11418	1.23597	0.31632	525.56870	18.99592	6
9	Numeracy	21	-1.01616	1.34138	0.31316	531.89887	18.80615	7
9	Numeracy	22	-0.91996	1.44484	0.31040	538.11194	18.64040	7
9	Numeracy	23	-0.82533	1.54660	0.30800	544.22292	18.49628	7
9	Numeracy	24	-0.73205	1.64691	0.30594	550.24682	18.37257	7
9	Numeracy	25	-0.63990	1.74601	0.30420	556.19805	18.26808	7
9	Numeracy	26	-0.54871	1.84408	0.30273	562.08744	18.17980	7
9	Numeracy	27	-0.45830	1.94131	0.30156	567.92638	18.10954	7
9	Numeracy	28	-0.36850	2.03788	0.30065	573.72568	18.05489	7
9	Numeracy	29	-0.27915	2.13396	0.29999	579.49556	18.01525	7
9	Numeracy	30	-0.19011	2.22972	0.29959	585.24622	17.99123	8
9	Numeracy	31	-0.10121	2.32532	0.29943	590.98727	17.98162	8
9	Numeracy	32	-0.01235	2.42088	0.29950	596.72592	17.98583	8
9	Numeracy	33	0.07664	2.51658	0.29982	602.47298	18.00504	8
9	Numeracy	34	0.16591	2.61258	0.30036	608.23805	18.03747	8
9	Numeracy	35	0.25557	2.70900	0.30114	614.02834	18.08431	8
9	Numeracy	36	0.34578	2.80601	0.30216	619.85407	18.14557	8
9	Numeracy	37	0.43669	2.90378	0.30341	625.72544	18.22063	8
9	Numeracy	38	0.52843	3.00243	0.30493	631.64965	18.31191	8
9	Numeracy	39	0.62117	3.10217	0.30670	637.63932	18.41821	9
9	Numeracy	40	0.71507	3.20315	0.30874	643.70346	18.54072	9
9	Numeracy	41	0.81030	3.30556	0.31107	649.85347	18.68064	9
9	Numeracy	42	0.90707	3.40962	0.31370	656.10257	18.83858	9
9	Numeracy	43	1.00556	3.51554	0.31667	662.46337	19.01693	9
9	Numeracy	44	1.10602	3.62358	0.31998	668.95148	19.21571	9

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	Numeracy	45	1.20868	3.73398	0.32369	675.58131	19.43851	9
9	Numeracy	46	1.31384	3.84706	0.32783	682.37209	19.68712	9
9	Numeracy	47	1.42182	3.96319	0.33245	689.34602	19.96457	10
9	Numeracy	48	1.53299	4.08274	0.33761	696.52534	20.27444	10
9	Numeracy	49	1.64778	4.20618	0.34345	703.93827	20.62515	10
9	Numeracy	50	1.76670	4.33407	0.35000	711.61842	21.01850	10
9	Numeracy	51	1.89038	4.46708	0.35742	719.60605	21.46409	10
9	Numeracy	52	2.01956	4.60600	0.36588	727.94859	21.97214	10
9	Numeracy	53	2.15517	4.75183	0.37560	736.70610	22.55585	10
9	Numeracy	54	2.29839	4.90585	0.38688	745.95544	23.23325	10
9	Numeracy	55	2.45075	5.06970	0.40014	755.79510	24.02955	10
9	Numeracy	56	2.61428	5.24556	0.41596	766.35599	24.97958	10
9	Numeracy	57	2.79177	5.43643	0.43518	777.81828	26.13380	10
9	Numeracy	58	2.98720	5.64660	0.45907	790.43959	27.56846	10
9	Numeracy	59	3.20656	5.88250	0.48989	804.60605	29.41929	10
9	Numeracy	60	3.45949	6.15450	0.53130	820.94043	31.90608	10
9	Numeracy	61	3.76297	6.48086	0.59064	840.53927	35.46961	10
9	Numeracy	62	4.15148	6.89866	0.68471	865.62935	41.11878	10
9	Numeracy	63	4.71418	7.50379	0.86521	901.96913	51.95832	10
9	Numeracy	64	5.86440	8.74074	1.46618	976.25150	88.04828	10

TABLE L.16 Year 9 Non-Calculator Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	NC	0	-5.13090	-3.08361	1.50955	266.16563	90.65277	5
9	NC	1	-3.93188	-1.79418	0.90354	343.59957	54.26015	5
9	NC	2	-3.32170	-1.13799	0.72411	383.00564	43.48487	5
9	NC	3	-2.88694	-0.67045	0.63203	411.08275	37.95520	5
9	NC	4	-2.53823	-0.29545	0.57488	433.60257	34.52318	5
9	NC	5	-2.24087	0.02433	0.53555	452.80627	32.16130	5
9	NC	6	-1.97747	0.30759	0.50690	469.81684	30.44079	5
9	NC	7	-1.73795	0.56517	0.48547	485.28525	29.15386	6
9	NC	8	-1.51602	0.80383	0.46886	499.61746	28.15638	6
9	NC	9	-1.30724	1.02836	0.45591	513.10113	27.37869	6
9	NC	10	-1.10845	1.24213	0.44583	525.93863	26.77336	6
9	NC	11	-0.91722	1.44778	0.43806	538.28849	26.30675	7
9	NC	12	-0.73162	1.64738	0.43225	550.27504	25.95784	7
9	NC	13	-0.55009	1.84259	0.42810	561.99796	25.70862	7
9	NC	14	-0.37131	2.03485	0.42542	573.54372	25.54768	7
9	NC	15	-0.19407	2.22546	0.42410	584.99039	25.46841	8
9	NC	16	-0.01731	2.41555	0.42406	596.40584	25.46601	8
9	NC	17	0.16001	2.60624	0.42525	607.85731	25.53747	8
9	NC	18	0.33890	2.79861	0.42769	619.40968	25.68400	8
9	NC	19	0.52040	2.99380	0.43141	631.13140	25.90740	8
9	NC	20	0.70564	3.19301	0.43653	643.09452	26.21487	9
9	NC	21	0.89588	3.39759	0.44320	655.38013	26.61542	9
9	NC	22	1.09257	3.60911	0.45167	668.08251	27.12407	9
9	NC	23	1.29752	3.82951	0.46229	681.31816	27.76183	9
9	NC	24	1.51300	4.06124	0.47558	695.23421	28.55993	10
9	NC	25	1.74205	4.30756	0.49230	710.02642	29.56402	10
9	NC	26	1.98882	4.57294	0.51381	725.96325	30.85575	10
9	NC	27	2.25950	4.86403	0.54212	743.44403	32.55585	10
9	NC	28	2.56379	5.19126	0.58094	763.09512	34.88710	10
9	NC	29	2.91873	5.57296	0.63730	786.01730	38.27168	10
9	NC	30	3.35852	6.04591	0.72838	814.41929	43.74129	10
9	NC	31	3.97196	6.70561	0.90664	854.03615	54.44631	10
9	NC	32	5.17187	7.99599	1.51142	931.52714	90.76507	10

TABLE L.17 Year 9 Calculator Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	CA	0	-5.23648	-3.19715	1.52840	259.34723	91.78477	5
9	CA	1	-4.01339	-1.88184	0.91770	338.33534	55.11050	5
9	CA	2	-3.38290	-1.20381	0.73670	379.05297	44.24093	5
9	CA	3	-2.93131	-0.71817	0.64332	408.21703	38.63320	5
9	CA	4	-2.56873	-0.32825	0.58492	431.63284	35.12611	5
9	CA	5	-2.25995	0.00381	0.54433	451.57399	32.68857	5
9	CA	6	-1.98719	0.29714	0.51449	469.18929	30.89659	5
9	CA	7	-1.74016	0.56279	0.49172	485.14233	29.52919	6
9	CA	8	-1.51224	0.80790	0.47398	499.86188	28.46385	6
9	CA	9	-1.29890	1.03732	0.45993	513.63920	27.62011	6
9	CA	10	-1.09677	1.25469	0.44880	526.69289	26.95172	6
9	CA	11	-0.90329	1.46276	0.44009	539.18809	26.42866	7
9	CA	12	-0.71638	1.66377	0.43343	551.25931	26.02871	7
9	CA	13	-0.53434	1.85953	0.42856	563.01525	25.73625	7
9	CA	14	-0.35567	2.05167	0.42529	574.55381	25.53988	7
9	CA	15	-0.17906	2.24160	0.42351	585.95964	25.43298	8
9	CA	16	-0.00328	2.43063	0.42314	597.31143	25.41076	8
9	CA	17	0.17282	2.62001	0.42414	608.68424	25.47081	8
9	CA	18	0.35040	2.81098	0.42652	620.15253	25.61374	8
9	CA	19	0.53064	3.00481	0.43032	631.79258	25.84194	8
9	CA	20	0.71478	3.20284	0.43562	643.68484	26.16022	9
9	CA	21	0.90419	3.40653	0.44257	655.91701	26.57759	9
9	CA	22	1.10045	3.61759	0.45138	668.59176	27.10665	9
9	CA	23	1.30540	3.83799	0.46239	681.82741	27.76784	9
9	CA	24	1.52135	4.07022	0.47607	695.77348	28.58936	10
9	CA	25	1.75133	4.31754	0.49314	710.62575	29.61446	10
9	CA	26	1.99942	4.58434	0.51497	726.64785	30.92541	10
9	CA	27	2.27173	4.87718	0.54353	744.23373	32.64052	10
9	CA	28	2.57791	5.20645	0.58253	764.00733	34.98258	10
9	CA	29	2.93497	5.59043	0.63903	787.06642	38.37557	10
9	CA	30	3.37717	6.06597	0.73051	815.62395	43.86920	10
9	CA	31	3.99373	6.72902	0.90881	855.44199	54.57663	10
9	CA	32	5.19768	8.02375	1.51452	933.19421	90.95124	10

TABLE L.18 Year 9 Reading Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	Reading	0	-5.32386	-3.16994	1.49630	208.55990	100.64573	5
9	Reading	1	-4.13354	-2.03568	0.88441	284.85370	59.48813	5
9	Reading	2	-3.54321	-1.47316	0.69897	322.69052	47.01487	5
9	Reading	3	-3.13610	-1.08522	0.60127	348.78456	40.44326	5
9	Reading	4	-2.82027	-0.78427	0.53910	369.02738	36.26152	5
9	Reading	5	-2.55932	-0.53561	0.49538	385.75301	33.32078	5
9	Reading	6	-2.33492	-0.32178	0.46286	400.13587	31.13338	5
9	Reading	7	-2.13654	-0.13274	0.43751	412.85128	29.42826	5
9	Reading	8	-1.95755	0.03782	0.41723	424.32367	28.06417	5
9	Reading	9	-1.79350	0.19414	0.40066	434.83823	26.94962	5
9	Reading	10	-1.64127	0.33920	0.38690	444.59541	26.02408	5
9	Reading	11	-1.49855	0.47520	0.37535	453.74319	25.24719	5
9	Reading	12	-1.36364	0.60375	0.36555	462.38986	24.58801	5
9	Reading	13	-1.23517	0.72617	0.35723	470.62420	24.02839	5
9	Reading	14	-1.11209	0.84346	0.35009	478.51349	23.54813	6
9	Reading	15	-0.99354	0.95642	0.34397	486.11152	23.13648	6
9	Reading	16	-0.87881	1.06575	0.33872	493.46539	22.78335	6
9	Reading	17	-0.76729	1.17202	0.33424	500.61344	22.48201	6
9	Reading	18	-0.65846	1.27572	0.33045	507.58862	22.22708	6
9	Reading	19	-0.55188	1.37728	0.32728	514.41986	22.01386	6
9	Reading	20	-0.44714	1.47709	0.32469	521.13338	21.83964	6
9	Reading	21	-0.34391	1.57545	0.32260	527.74938	21.69907	6
9	Reading	22	-0.24183	1.67273	0.32102	534.29273	21.59279	7
9	Reading	23	-0.14060	1.76919	0.31991	540.78092	21.51813	7
9	Reading	24	-0.03992	1.86513	0.31927	547.23414	21.47508	7
9	Reading	25	0.06046	1.96078	0.31909	553.66785	21.46297	7
9	Reading	26	0.16089	2.05648	0.31936	560.10493	21.48113	7
9	Reading	27	0.26161	2.15245	0.32010	566.56017	21.53091	7
9	Reading	28	0.36293	2.24900	0.32132	573.05442	21.61297	7
9	Reading	29	0.46515	2.34641	0.32304	579.60651	21.72866	7
9	Reading	30	0.56861	2.44499	0.32530	586.23730	21.88068	8
9	Reading	31	0.67367	2.54511	0.32814	592.97168	22.07170	8
9	Reading	32	0.78074	2.64713	0.33162	599.83386	22.30578	8
9	Reading	33	0.89026	2.75150	0.33581	606.85411	22.58761	8
9	Reading	34	1.00276	2.85870	0.34078	614.06471	22.92191	8
9	Reading	35	1.11885	2.96932	0.34667	621.50535	23.31809	8
9	Reading	36	1.23926	3.08406	0.35360	629.22311	23.78422	8
9	Reading	37	1.36485	3.20373	0.36176	637.27248	24.33309	9
9	Reading	38	1.49672	3.32939	0.37137	645.72476	24.97948	9
9	Reading	39	1.63620	3.46230	0.38287	654.66469	25.75301	9
9	Reading	40	1.78508	3.60417	0.39661	664.20730	26.67720	9
9	Reading	41	1.94570	3.75722	0.41325	674.50192	27.79646	9
9	Reading	42	2.12126	3.92451	0.43371	685.75436	29.17266	9
9	Reading	43	2.31633	4.11040	0.45938	698.25789	30.89931	10
9	Reading	44	2.53774	4.32138	0.49242	712.44905	33.12168	10

Year	Domain	Raw Score	Delta- Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	Reading	45	2.79637	4.56783	0.53687	729.02603	36.11152	10
9	Reading	46	3.11112	4.86775	0.60014	749.19957	40.36726	10
9	Reading	47	3.51944	5.25684	0.69940	775.37096	47.04379	10
9	Reading	48	4.11497	5.82432	0.88723	813.54140	59.67781	10
9	Reading	49	5.31670	6.96945	1.50396	890.56636	101.16096	10

TABLE L.19 Year 9 Spelling Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	Spelling	0	-5.20210	-2.01505	1.52274	387.36519	58.02904	5
9	Spelling	1	-3.98980	-0.83718	0.91667	432.25182	34.93274	5
9	Spelling	2	-3.36381	-0.22897	0.73869	455.42967	28.15022	5
9	Spelling	3	-2.91117	0.21082	0.64842	472.18932	24.71019	5
9	Spelling	4	-2.54313	0.56840	0.59284	485.81609	22.59213	6
9	Spelling	5	-2.22547	0.87704	0.55480	497.57784	21.14249	6
9	Spelling	6	-1.94123	1.15321	0.52713	508.10221	20.08803	6
9	Spelling	7	-1.68065	1.40639	0.50637	517.75047	19.29690	6
9	Spelling	8	-1.43770	1.64244	0.49020	526.74593	18.68069	6
9	Spelling	9	-1.20816	1.86546	0.47748	535.24485	18.19595	7
9	Spelling	10	-0.98899	2.07841	0.46746	543.36001	17.81411	7
9	Spelling	11	-0.77783	2.28357	0.45965	551.17831	17.51648	7
9	Spelling	12	-0.57279	2.48279	0.45373	558.77025	17.29088	7
9	Spelling	13	-0.37225	2.67763	0.44946	566.19527	17.12816	7
9	Spelling	14	-0.17481	2.86946	0.44673	573.50558	17.02412	7
9	Spelling	15	0.02085	3.05957	0.44544	580.75035	16.97496	7
9	Spelling	16	0.21598	3.24916	0.44558	587.97531	16.98030	8
9	Spelling	17	0.41181	3.43942	0.44716	595.22579	17.04051	8
9	Spelling	18	0.60960	3.63160	0.45025	602.54945	17.15826	8
9	Spelling	19	0.81074	3.82702	0.45500	609.99657	17.33928	8
9	Spelling	20	1.01674	4.02717	0.46163	617.62395	17.59194	8
9	Spelling	21	1.22945	4.23384	0.47051	625.49979	17.93034	8
9	Spelling	22	1.45114	4.44924	0.48217	633.70832	18.37468	8
9	Spelling	23	1.68489	4.67635	0.49737	642.36310	18.95393	9
9	Spelling	24	1.93493	4.91929	0.51753	651.62113	19.72219	9
9	Spelling	25	2.20763	5.18424	0.54476	661.71792	20.75988	9
9	Spelling	26	2.51318	5.48112	0.58289	673.03152	22.21295	9
9	Spelling	27	2.86937	5.82719	0.63916	686.21966	24.35730	10
9	Spelling	28	3.31175	6.25701	0.73077	702.59937	27.84841	10
9	Spelling	29	3.93088	6.85855	0.91070	725.52304	34.70523	10
9	Spelling	30	5.14188	8.03516	1.51946	770.36165	57.90404	10

TABLE L.20 Year 9 Grammar & Punctuation Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
9	GP	0	-4.88668	-4.01584	1.51602	112.73502	111.43109	5
9	GP	1	-3.68080	-2.71880	0.90908	208.07056	66.81955	5
9	GP	2	-3.06407	-2.05544	0.72977	256.82911	53.63984	5
9	GP	3	-2.62269	-1.58069	0.63835	291.72437	46.92025	5
9	GP	4	-2.26704	-1.19816	0.58198	319.84123	42.77692	5
9	GP	5	-1.96217	-0.87024	0.54355	343.94414	39.95222	5
9	GP	6	-1.69051	-0.57804	0.51597	365.42154	37.92503	5
9	GP	7	-1.44210	-0.31085	0.49528	385.06064	36.40426	5
9	GP	8	-1.21049	-0.06173	0.47964	403.37155	35.25469	5
9	GP	9	-0.99143	0.17389	0.46759	420.69019	34.36898	5
9	GP	10	-0.78177	0.39940	0.45842	437.26571	33.69497	5
9	GP	11	-0.57911	0.61738	0.45163	453.28776	33.19588	5
9	GP	12	-0.38147	0.82996	0.44690	468.91290	32.84822	5
9	GP	13	-0.18716	1.03896	0.44402	484.27490	32.63653	6
9	GP	14	0.00537	1.24605	0.44292	499.49651	32.55568	6
9	GP	15	0.19765	1.45286	0.44356	514.69754	32.60272	6
9	GP	16	0.39119	1.66104	0.44601	529.99926	32.78280	6
9	GP	17	0.58762	1.87232	0.45038	545.52885	33.10401	7
9	GP	18	0.78873	2.08863	0.45689	561.42815	33.58251	7
9	GP	19	0.99661	2.31223	0.46587	577.86329	34.24256	7
9	GP	20	1.21377	2.54580	0.47783	595.03124	35.12165	8
9	GP	21	1.44349	2.79289	0.49346	613.19294	36.27049	8
9	GP	22	1.69007	3.05811	0.51417	632.68725	37.79272	8
9	GP	23	1.95991	3.34835	0.54171	654.02058	39.81698	9
9	GP	24	2.26282	3.67416	0.58003	677.96839	42.63359	9
9	GP	25	2.61600	4.05404	0.63616	705.89048	46.75928	10
9	GP	26	3.05397	4.52512	0.72714	740.51599	53.44653	10
9	GP	27	3.66579	5.18320	0.90573	788.88644	66.57332	10
9	GP	28	4.86479	6.47284	1.51090	883.67806	111.05476	10

TABLE L.21 Years 3, 5, 7, and 9 Persuasive Writing Score Equivalence Table

Year	Domain	Raw Score	Delta-Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
3579	Writing	0	-12.539	-12.540	1.763	94.52478	52.30000	1
3579	Writing	1	-10.960	-10.960	1.078	141.43828	32.00000	1
3579	Writing	2	-10.075	-10.070	0.869	167.86425	25.80000	1
3579	Writing	3	-9.450	-9.450	0.770	186.27335	22.90000	1
3579	Writing	4	-8.933	-8.933	0.719	201.62416	21.30000	1
3579	Writing	5	-8.463	-8.463	0.694	215.57944	20.60000	1
3579	Writing	6	-8.008	-8.008	0.684	229.08934	20.30000	1
3579	Writing	7	-7.551	-7.551	0.685	242.65863	20.30000	1
3579	Writing	8	-7.083	-7.083	0.690	256.55453	20.50000	1
3579	Writing	9	-6.600	-6.600	0.695	270.89581	20.60000	2
3579	Writing	10	-6.110	-6.110	0.698	285.44494	20.70000	2
3579	Writing	11	-5.622	-5.622	0.698	299.93468	20.70000	2
3579	Writing	12	-5.136	-5.136	0.699	314.36503	20.80000	2
3579	Writing	13	-4.647	-4.647	0.702	328.88447	20.80000	3
3579	Writing	14	-4.151	-4.151	0.705	343.61175	20.90000	3
3579	Writing	15	-3.649	-3.649	0.705	358.51718	20.90000	3
3579	Writing	16	-3.146	-3.146	0.700	373.45230	20.80000	3
3579	Writing	17	-2.655	-2.655	0.690	388.03112	20.50000	4
3579	Writing	18	-2.185	-2.185	0.678	401.98640	20.10000	4
3579	Writing	19	-1.735	-1.735	0.666	415.34784	19.80000	4
3579	Writing	20	-1.300	-1.300	0.657	428.26390	19.50000	5
3579	Writing	21	-0.875	-0.875	0.650	440.88304	19.30000	5
3579	Writing	22	-0.457	-0.457	0.643	453.29434	19.10000	5
3579	Writing	23	-0.047	-0.047	0.637	465.46810	18.90000	5
3579	Writing	24	0.354	0.354	0.631	477.37463	18.70000	5
3579	Writing	25	0.747	0.747	0.626	489.04362	18.60000	6
3579	Writing	26	1.134	1.134	0.622	500.53446	18.50000	6
3579	Writing	27	1.516	1.516	0.620	511.87684	18.40000	6
3579	Writing	28	1.897	1.897	0.621	523.18952	18.40000	6
3579	Writing	29	2.280	2.280	0.624	534.56160	18.50000	7
3579	Writing	30	2.671	2.671	0.629	546.17120	18.70000	7
3579	Writing	31	3.071	3.071	0.634	558.04804	18.80000	7
3579	Writing	32	3.482	3.482	0.637	570.25149	18.90000	7
3579	Writing	33	3.894	3.894	0.636	582.48463	18.90000	8
3579	Writing	34	4.300	4.300	0.631	594.53962	18.70000	8
3579	Writing	35	4.694	4.694	0.625	606.23831	18.60000	8
3579	Writing	36	5.078	5.078	0.621	617.64007	18.40000	8
3579	Writing	37	5.456	5.456	0.620	628.86368	18.40000	8
3579	Writing	38	5.835	5.835	0.623	640.11699	18.50000	9
3579	Writing	39	6.222	6.222	0.631	651.60783	18.70000	9
3579	Writing	40	6.623	6.623	0.641	663.51436	19.00000	9
3579	Writing	41	7.042	7.042	0.653	675.95534	19.40000	9
3579	Writing	42	7.475	7.475	0.665	688.81202	19.70000	10
3579	Writing	43	7.920	7.920	0.680	702.02500	20.20000	10
3579	Writing	44	8.381	8.381	0.702	715.71306	20.90000	10

Year	Domain	Raw Score	Delta- Centered Logit	Logit	Logit SE	Scale Score	Scale SE	Band
3579	Writing	45	8.874	8.874	0.743	730.35126	22.10000	10
3579	Writing	46	9.436	9.436	0.820	747.03821	24.30000	10
3579	Writing	47	10.159	10.159	0.988	768.50560	29.30000	10
3579	Writing	48	11.461	11.461	1.599	807.16470	47.50000	10
