Appendix 10

Online Tests Comparability Study

Table 1

Comparability Study Results for Grade 8 Mathematics

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.31	0.01	1222.99	1270.41	1.69	0.31	47.42	**
1	1.03	0.03	1376.71	1379.48	4.19	0.03	2.77	
2	2.05	0.07	1488.99	1491.83	5.02	0.05	2.84	
3	3.06	0.09	1557.09	1560.06	4.92	0.06	2.97	
4	4.08	0.11	1607.10	1610.04	4.84	0.08	2.94	
5	5.09	0.14	1647.22	1650.11	4.77	0.09	2.89	
6	6.10	0.15	1681.09	1683.91	4.69	0.10	2.82	
7	7.11	0.17	1710.65	1713.43	4.62	0.11	2.78	
8	8.12	0.19	1737.08	1739.83	4.56	0.12	2.75	
9	9.13	0.20	1761.13	1763.87	4.50	0.13	2.74	
10	10.14	0.21	1783.32	1786.07	4.44	0.14	2.75	
11	11.14	0.22	1804.01	1806.79	4.39	0.14	2.78	
12	12.16	0.23	1823.48	1826.31	4.35	0.16	2.83	
13	13.17	0.24	1841.96	1844.86	4.31	0.17	2.90	
14	14.18	0.25	1859.60	1862.59	4.28	0.18	2.99	
15	15.19	0.26	1876.53	1879.62	4.25	0.19	3.09	
16	16.20	0.26	1892.88	1896.09	4.22	0.20	3.21	
17	17.22	0.27	1908.74	1912.08	4.19	0.22	3.34	
18	18.23	0.28	1924.17	1927.66	4.18	0.23	3.49	
19	19.25	0.28	1939.30	1942.93	4.15	0.25	3.63	
20	20.26	0.28	1954.09	1957.89	4.13	0.26	3.80	
21	21.28	0.29	1968.65	1972.62	4.12	0.28	3.97	
22	22.29	0.29	1983.04	1987.19	4.11	0.29	4.15	
23	23.31	0.29	1997.30	2001.64	4.09	0.31	4.34	
24	24.32	0.29	2011.47	2016.00	4.09	0.32	4.53	
25	25.33	0.29	2025.60	2030.32	4.07	0.33	4.72	
26	26.35	0.29	2039.71	2044.64	4.06	0.35	4.93	
27	27.36	0.29	2053.86	2059.00	4.06	0.36	5.14	
28	28.37	0.28	2068.10	2073.45	4.05	0.37	5.35	
29	29.38	0.28	2082.46	2088.03	4.05	0.38	5.57	
30	30.39	0.27	2096.98	2102.77	4.04	0.39	5.79	
31	31.40	0.27	2111.73	2117.74	4.04	0.40	6.01	
32	32.41	0.26	2126.74	2132.98	4.04	0.41	6.24	
33	33.41	0.26	2142.09	2148.56	4.04	0.41	6.47	
34	34.41	0.25	2157.84	2164.54	4.04	0.41	6.70	
35	35.41	0.24	2174.06	2181.00	4.05	0.41	6.94	
36	36.41	0.23	2190.86	2198.04	4.05	0.41	7.18	
37	37.41	0.22	2208.34	2215.76	4.06	0.41	7.42	
38	38.40	0.21	2226.64	2234.30	4.08	0.40	7.66	
39	39.39	0.20	2245.92	2253.83	4.09	0.39	7.91	
40	40.37	0.19	2266.39	2274.56	4.11	0.37	8.17	
41	41.35	0.17	2288.32	2296.76	4.15	0.35	8.44	**
42	42.33	0.16	2312.10	2320.82	4.18	0.33	8.72	**
43	43.31	0.15	2338.23	2347.24	4.23	0.31	9.01	**
44	44.28	0.13	2367.47	2376.82	4.31	0.28	9.35	**

45	45.25	0.11	2400.99	2410.73	4.40	0.24	9.74 **
46	46.21	0.09	2440.72	2450.97	4.56	0.21	10.25 **
47	47.16	0.07	2490.33	2501.37	4.84	0.16	11.04 **
48	48.11	0.05	2557.98	2570.78	5.54	0.11	12.80 **
49	49.06	0.03	2669.80	2679.01	3.96	0.06	9.21 **
50	49.72	0.01	2822.97	2779.88	1.23	-0.28	-43.09 **

Table 2

Comparability Study Results for Grade 8 Reading

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.34	0.01	1174.29	1227.22	1.89	0.34	52.93	**
1	1.14	0.04	1328.54	1344.27	4.34	0.14	15.73	**
2	2.28	0.07	1439.53	1458.05	4.93	0.28	18.52	**
3	3.41	0.10	1506.33	1526.13	5.11	0.41	19.80	**
4	4.53	0.13	1555.07	1575.63	5.16	0.53	20.56	**
5	5.64	0.16	1593.96	1615.01	5.15	0.64	21.05	**
6	6.75	0.18	1626.63	1648.02	5.09	0.75	21.39	**
7	7.86	0.20	1655.04	1676.65	4.99	0.86	21.61	**
8	8.95	0.22	1680.37	1702.11	4.89	0.95	21.74	**
9	10.04	0.24	1703.35	1725.19	4.81	1.04	21.84	**
10	11.12	0.25	1724.51	1746.43	4.76	1.12	21.92	**
11	12.20	0.26	1744.23	1766.21	4.71	1.20	21.98	**
12	13.27	0.28	1762.77	1784.81	4.68	1.27	22.04	**
13	14.33	0.29	1780.35	1802.45	4.65	1.33	22.10	**
14	15.39	0.30	1797.15	1819.28	4.63	1.39	22.13	**
15	16.44	0.30	1813.28	1835.44	4.60	1.44	22.16	**
16	17.48	0.31	1828.86	1851.06	4.58	1.48	22.20	**
17	18.52	0.32	1843.99	1866.21	4.56	1.52	22.22	**
18	19.55	0.32	1858.74	1880.99	4.53	1.55	22.25	**
19	20.57	0.32	1873.19	1895.45	4.51	1.57	22.26	**
20	21.59	0.32	1887.40	1909.66	4.49	1.59	22.26	**
21	22.61	0.32	1901.41	1923.69	4.47	1.61	22.28	**
22	23.62	0.32	1915.29	1937.57	4.45	1.62	22.28	**
23	24.62	0.32	1929.08	1951.36	4.44	1.62	22.28	**
24	25.62	0.32	1942.83	1965.10	4.42	1.62	22.27	**
25	26.61	0.32	1956.58	1978.84	4.40	1.61	22.26	**
26	27.60	0.31	1970.38	1992.63	4.39	1.60	22.25	**
27	28.58	0.31	1984.27	2006.51	4.37	1.58	22.24	**
28	29.55	0.30	1998.31	2020.51	4.35	1.55	22.20	**
29	30.52	0.29	2012.54	2034.71	4.35	1.52	22.17	**
30	31.49	0.29	2026.98	2049.17	4.34	1.49	22.19	**
31	32.45	0.28	2041.79	2063.95	4.33	1.45	22.16	**
32	33.40	0.27	2056.97	2079.10	4.32	1.40	22.13	**
33	34.35	0.26	2072.62	2094.71	4.32	1.35	22.09	**
34	35.29	0.25	2088.82	2110.87	4.32	1.29	22.05	**
35	36.23	0.23	2105.69	2127.69	4.31	1.23	22.00	**
36	37.17	0.22	2123.36	2145.29	4.31	1.17	21.93	**
37	38.09	0.21	2141.99	2163.86	4.30	1.09	21.87	**
38	39.02	0.19	2161.80	2183.59	4.28	1.02	21.79	**
39	39.94	0.18	2183.07	2204.78	4.23	0.94	21.71	**
40	40.85	0.16	2206.16	2227.81	4.17	0.85	21.65	**
41	41.76	0.14	2231.59	2253.23	4.13	0.76	21.64	**
42	42.66	0.13	2260.11	2281.84	4.15	0.66	21.73	**
43	43.56	0.11	2292.90	2314.83	4.20	0.56	21.93	**
44	44.46	0.09	2331.90	2354.34	4.33	0.46	22.44	**

45	45.35	0.07	2380.97	2404.32	4.54	0.35	23.35 **
46	46.24	0.05	2447.97	2474.17	5.16	0.24	26.20 **
47	47.12	0.02	2559.18	2577.78	3.71	0.12	18.60 **
48	47.74	0.01	2715.06	2673.92	1.14	-0.26	-41.14 **

Table 3

Comparability Study Results for Grade 8 Social Studies

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.30	0.01	1361.76	1405.59	1.45	0.30	43.83	**
1	1.01	0.03	1506.93	1507.46	3.94	0.01	0.53	
2	2.02	0.06	1612.22	1612.97	4.94	0.02	0.75	
3	3.04	0.09	1675.72	1677.24	4.69	0.04	1.52	
4	4.06	0.11	1722.17	1724.22	4.60	0.06	2.05	
5	5.08	0.14	1759.29	1761.79	4.55	0.08	2.50	
6	6.11	0.16	1790.55	1793.43	4.51	0.11	2.88	
7	7.14	0.18	1817.79	1821.01	4.48	0.14	3.22	
8	8.16	0.20	1842.11	1845.64	4.46	0.16	3.53	
9	9.19	0.21	1864.22	1868.02	4.44	0.19	3.80	
10	10.21	0.23	1884.61	1888.66	4.42	0.21	4.05	
11	11.24	0.24	1903.64	1907.92	4.40	0.24	4.28	
12	12.26	0.26	1921.56	1926.04	4.38	0.26	4.48	
13	13.29	0.27	1938.57	1943.23	4.37	0.29	4.66	
14	14.31	0.28	1954.84	1959.66	4.35	0.31	4.82	
15	15.33	0.29	1970.49	1975.44	4.34	0.33	4.95	
16	16.35	0.29	1985.62	1990.70	4.33	0.35	5.08	
17	17.36	0.30	2000.33	2005.51	4.31	0.36	5.18	
18	18.37	0.31	2014.68	2019.95	4.30	0.37	5.27	
19	19.39	0.31	2028.75	2034.09	4.29	0.39	5.34	
20	20.40	0.31	2042.59	2047.99	4.28	0.40	5.40	
21	21.40	0.31	2056.26	2061.71	4.27	0.40	5.45	
22	22.41	0.32	2069.80	2075.28	4.25	0.41	5.48	
23	23.41	0.32	2083.25	2088.75	4.25	0.41	5.50	
24	24.41	0.32	2096.68	2102.19	4.23	0.41	5.51	
25	25.41	0.31	2110.11	2115.62	4.23	0.41	5.51	
26	26.40	0.31	2123.59	2129.08	4.22	0.40	5.49	
27	27.40	0.31	2137.17	2142.62	4.20	0.40	5.45	
28	28.39	0.30	2150.85	2156.29	4.21	0.39	5.44	
29	29.38	0.30	2164.77	2170.17	4.20	0.38	5.40	
30	30.37	0.29	2178.92	2184.27	4.19	0.37	5.35	
31	31.36	0.28	2193.38	2198.67	4.19	0.36	5.29	
32	32.34	0.28	2208.20	2213.42	4.19	0.34	5.22	
33	33.33	0.27	2223.46	2228.61	4.18	0.33	5.15	
34	34.31	0.26	2239.24	2244.31	4.18	0.31	5.07	
35	35.29	0.25	2255.66	2260.64	4.18	0.29	4.98	
36	36.27	0.23	2272.83	2277.72	4.19	0.27	4.89	
37	37.25	0.22	2290.91	2295.71	4.19	0.25	4.80	
38	38.23	0.21	2310.10	2314.84	4.22	0.23	4.74	
39	39.21	0.19	2330.79	2335.41	4.23	0.21	4.62	
40	40.18	0.18	2353.13	2357.66	4.25	0.18	4.53	
41	41.16	0.16	2377.69	2382.14	4.28	0.16	4.45	
42	42.14	0.14	2405.19	2409.57	4.32	0.14	4.38	
43	43.11	0.12	2436.72	2441.06	4.39	0.11	4.34	
44	44.09	0.10	2474.14	2478.49	4.49	0.09	4.35	

45	45.07	0.08	2520.90	2525.38	4.68	0.07	4.48
46	46.04	0.05	2584.74	2589.75	5.18	0.04	5.01
47	47.02	0.03	2690.37	2693.80	3.84	0.02	3.43
48	47.71	0.01	2837.51	2794.35	1.27	-0.29	-43.16 **

Table 4

Comparability Study Results for Exit Level Mathematics

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.39	0.02	1298.26	1353.13	2.97	0.39	54.87	**
1	1.02	0.05	1440.64	1442.40	5.77	0.02	1.76	
2	2.06	0.09	1542.47	1545.60	6.37	0.06	3.13	
3	3.10	0.12	1603.88	1608.32	5.87	0.10	4.44	
4	4.15	0.15	1648.76	1653.96	5.67	0.15	5.20	
5	5.19	0.18	1684.58	1690.28	5.59	0.19	5.70	
6	6.23	0.21	1714.77	1720.76	5.51	0.23	5.99	
7	7.27	0.23	1740.90	1747.11	5.46	0.27	6.21	
8	8.30	0.25	1764.18	1770.54	5.43	0.30	6.36	
9	9.33	0.28	1785.30	1791.77	5.41	0.33	6.47	
10	10.36	0.30	1804.73	1811.28	5.39	0.36	6.55	
11	11.39	0.32	1822.79	1829.41	5.37	0.39	6.62	
12	12.42	0.33	1839.75	1846.42	5.36	0.42	6.67	
13	13.44	0.35	1855.79	1862.46	5.31	0.44	6.67	
14	14.46	0.36	1870.93	1877.68	5.32	0.46	6.75	
15	15.49	0.38	1885.49	1892.29	5.30	0.49	6.80	
16	16.51	0.39	1899.48	1906.34	5.30	0.51	6.86	
17	17.53	0.40	1913.00	1919.91	5.28	0.53	6.91	
18	18.55	0.41	1926.09	1933.06	5.27	0.55	6.97	
19	19.57	0.42	1938.82	1945.86	5.26	0.57	7.04	
20	20.59	0.43	1951.24	1958.35	5.25	0.59	7.11	
21	21.60	0.44	1963.39	1970.58	5.25	0.60	7.19	
22	22.62	0.45	1975.32	1982.59	5.24	0.62	7.27	
23	23.64	0.45	1987.04	1994.41	5.23	0.64	7.37	
24	24.65	0.46	1998.61	2006.07	5.22	0.65	7.46	
25	25.67	0.46	2010.03	2017.59	5.21	0.67	7.56	
26	26.68	0.46	2021.34	2029.01	5.21	0.68	7.67	
27	27.70	0.47	2032.57	2040.34	5.20	0.70	7.77	
28	28.71	0.47	2043.73	2051.61	5.19	0.71	7.88	
29	29.72	0.47	2054.84	2062.85	5.18	0.72	8.01	
30	30.73	0.47	2065.94	2074.06	5.17	0.73	8.12	
31	31.74	0.46	2077.04	2085.28	5.16	0.74	8.24	
32	32.75	0.46	2088.16	2096.53	5.16	0.75	8.37	
33	33.76	0.46	2099.32	2107.81	5.15	0.76	8.49	
34	34.76	0.45	2110.54	2119.16	5.14	0.76	8.62	
35	35.77	0.45	2121.85	2130.60	5.13	0.77	8.75	
36	36.77	0.44	2133.27	2142.16	5.12	0.77	8.89	
37	37.77	0.43	2144.83	2153.84	5.11	0.77	9.01	
38	38.77	0.43	2156.54	2165.69	5.10	0.77	9.15	
39	39.76	0.42	2168.45	2177.73	5.10	0.76	9.28	
40	40.76	0.41	2180.59	2190.00	5.08	0.76	9.41	
41	41.75	0.40	2192.99	2202.53	5.07	0.75	9.54	
42	42.74	0.39	2205.69	2215.36	5.07	0.74	9.67	
43	43.73	0.37	2218.74	2228.55	5.06	0.73	9.81	
44	44.71	0.36	2232.20	2242.15	5.05	0.71	9.95	

45	45.69	0.35	2246.14	2256.21	5.04	0.69	10.07	
46	46.67	0.33	2260.62	2270.82	5.03	0.67	10.20	**
47	47.65	0.31	2275.75	2286.09	5.02	0.65	10.34	**
48	48.62	0.30	2291.64	2302.11	5.01	0.62	10.47	**
49	49.59	0.28	2308.44	2319.11	5.03	0.59	10.67	**
50	50.56	0.26	2326.44	2337.21	5.01	0.56	10.77	**
51	51.52	0.24	2345.71	2356.65	5.01	0.52	10.94	**
52	52.48	0.22	2366.67	2377.78	5.03	0.48	11.11	**
53	53.44	0.20	2389.78	2401.09	5.06	0.44	11.31	**
54	54.39	0.17	2415.73	2427.29	5.11	0.39	11.56	**
55	55.33	0.15	2445.58	2457.46	5.19	0.33	11.88	**
56	56.28	0.12	2481.12	2493.46	5.33	0.28	12.34	**
57	57.21	0.09	2525.67	2538.80	5.60	0.21	13.13	**
58	58.15	0.06	2586.73	2601.78	6.35	0.15	15.05	**
59	59.08	0.03	2688.18	2699.07	4.57	0.08	10.89	**
60	59.65	0.01	2830.12	2780.40	1.78	-0.35	-49.72	**

Table 5

Comparability Study Results for Exit Level ELA

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.45	0.10	1389.48	1451.71	13.95	0.45	62.23	**
1	1.16	0.22	1528.06	1539.76	20.04	0.16	11.70	
2	2.27	0.35	1609.54	1621.35	18.84	0.27	11.81	
3	3.35	0.43	1658.39	1670.02	15.84	0.35	11.63	
4	4.41	0.47	1693.91	1705.04	13.67	0.41	11.13	
5	5.46	0.51	1722.13	1732.78	12.05	0.46	10.65	
6	6.51	0.53	1745.76	1756.00	10.83	0.51	10.24	
7	7.56	0.55	1766.23	1776.15	9.93	0.56	9.92	
8	8.60	0.57	1784.38	1794.06	9.26	0.60	9.68	
9	9.64	0.59	1800.79	1810.29	8.79	0.64	9.50	
10	10.68	0.61	1815.84	1825.20	8.44	0.68	9.36	
11	11.72	0.64	1829.80	1839.06	8.19	0.72	9.26	
12	12.76	0.66	1842.84	1852.05	8.02	0.76	9.21	
13	13.80	0.69	1855.15	1864.33	7.90	0.80	9.18	
14	14.83	0.71	1866.84	1876.02	7.83	0.83	9.18	
15	15.87	0.74	1878.01	1887.20	7.77	0.87	9.19	
16	16.90	0.76	1888.72	1897.94	7.74	0.90	9.22	
17	17.94	0.78	1899.04	1908.31	7.73	0.94	9.27	
18	18.97	0.81	1909.02	1918.36	7.73	0.97	9.34	
19	20.01	0.83	1918.72	1928.14	7.73	1.01	9.42	
20	21.04	0.85	1928.18	1937.68	7.75	1.04	9.50	
21	22.07	0.87	1937.41	1947.01	7.77	1.07	9.60	
22	23.10	0.88	1946.47	1956.17	7.79	1.10	9.70	
23	24.13	0.90	1955.37	1965.18	7.81	1.13	9.81	
24	25.15	0.91	1964.13	1974.06	7.84	1.15	9.93	
25	26.18	0.92	1972.78	1982.84	7.86	1.18	10.06	
26	27.21	0.93	1981.34	1991.54	7.89	1.21	10.20	
27	28.23	0.94	1989.83	2000.16	7.92	1.23	10.33	
28	29.25	0.95	1998.25	2008.74	7.95	1.25	10.49	
29	30.27	0.95	2006.65	2017.29	7.98	1.27	10.64	
30	31.29	0.95	2015.02	2025.82	8.00	1.29	10.80	
31	32.31	0.96	2023.39	2034.35	8.03	1.31	10.96	
32	33.32	0.95	2031.76	2042.90	8.06	1.32	11.14	
33	34.33	0.95	2040.17	2051.48	8.08	1.33	11.31	
34	35.35	0.95	2048.60	2060.11	8.11	1.35	11.51	
35	36.35	0.94	2057.12	2068.80	8.13	1.35	11.68	
36	37.36	0.93	2065.69	2077.58	8.15	1.36	11.89	
37	38.37	0.92	2074.35	2086.45	8.17	1.37	12.10	
38	39.37	0.91	2083.14	2095.44	8.20	1.37	12.30	
39	40.37	0.89	2092.04	2104.58	8.22	1.37	12.54	
40	41.36	0.87	2101.11	2113.87	8.24	1.36	12.76	
41	42.36	0.86	2110.35	2123.35	8.26	1.36	13.00	
42	43.35	0.84	2119.80	2133.05	8.28	1.35	13.25	
43	44.34	0.81	2129.47	2142.99	8.30	1.34	13.52	
44	45.33	0.79	2139.41	2153.20	8.32	1.33	13.79	

45	46.31	0.77	2149.65	2163.72	8.34	1.31	14.07
46	47.29	0.74	2160.22	2174.60	8.36	1.29	14.38
47	48.27	0.71	2171.18	2185.87	8.38	1.27	14.69
48	49.24	0.68	2182.57	2197.60	8.40	1.24	15.03
49	50.21	0.65	2194.47	2209.84	8.43	1.21	15.37
50	51.18	0.62	2206.92	2222.66	8.45	1.18	15.74
51	52.14	0.59	2220.03	2236.14	8.49	1.14	16.11
52	53.10	0.56	2233.87	2250.37	8.53	1.10	16.50
53	54.06	0.53	2248.56	2265.43	8.59	1.06	16.87
54	55.01	0.50	2264.21	2281.41	8.67	1.01	17.20
55	55.96	0.47	2280.96	2298.40	8.78	0.96	17.44
56	56.90	0.45	2298.93	2316.46	8.94	0.90	17.53
57	57.82	0.43	2318.28	2335.64	9.18	0.82	17.36
58	58.74	0.42	2339.14	2355.89	9.52	0.74	16.75
59	59.64	0.41	2361.59	2377.09	10.02	0.64	15.50
60	60.52	0.42	2385.67	2399.07	10.72	0.52	13.40
61	61.37	0.43	2411.40	2421.63	11.67	0.37	10.23
62	62.20	0.45	2438.74	2444.61	12.93	0.20	5.87
63	63.00	0.49	2467.75	2468.01	14.58	0.00	0.26
64	63.78	0.53	2498.58	2492.07	16.69	-0.22	-6.51
65	64.56	0.58	2531.71	2517.36	19.36	-0.44	-14.35
66	65.35	0.63	2568.05	2544.89	22.77	-0.65	-23.16
67	66.18	0.67	2609.33	2576.62	27.19	-0.82	-32.71
68	67.10	0.71	2658.48	2616.49	33.04	-0.90	-41.99
69	68.19	0.71	2720.62	2673.69	41.20	-0.81	-46.93
70	69.56	0.67	2802.02	2769.92	53.92	-0.44	-32.10
71	70.91	0.60	2903.14	2899.98	65.92	-0.09	-3.16
72	71.98	0.42	3030.64	3033.44	59.28	-0.02	2.80
73	72.59	0.22	3195.61	3128.60	35.53	-0.41	-67.01

Table 6

Comparability Study Results for Exit Level Social Studies

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.35	0.03	1413.18	1458.49	4.42	0.35	45.31	**
1	0.93	0.09	1541.64	1532.60	10.56	-0.07	-9.04	
2	1.88	0.17	1633.60	1621.63	14.11	-0.12	-11.97	
3	2.84	0.25	1689.19	1679.55	12.77	-0.16	-9.64	
4	3.80	0.32	1730.02	1721.48	12.31	-0.20	-8.54	
5	4.77	0.39	1762.60	1754.82	12.09	-0.23	-7.78	
6	5.75	0.45	1790.06	1782.81	11.97	-0.25	-7.25	
7	6.73	0.51	1814.00	1807.16	11.91	-0.27	-6.84	
8	7.71	0.57	1835.38	1828.88	11.86	-0.29	-6.50	
9	8.69	0.62	1854.83	1848.60	11.82	-0.31	-6.23	
10	9.68	0.67	1872.75	1866.77	11.79	-0.32	-5.98	
11	10.67	0.71	1889.47	1883.69	11.75	-0.33	-5.78	
12	11.66	0.75	1905.19	1899.59	11.72	-0.34	-5.60	
13	12.65	0.79	1920.10	1914.66	11.69	-0.35	-5.44	
14	13.64	0.82	1934.32	1929.02	11.65	-0.36	-5.30	
15	14.63	0.85	1947.97	1942.79	11.62	-0.37	-5.18	
16	15.63	0.88	1961.12	1956.06	11.58	-0.37	-5.06	
17	16.62	0.91	1973.87	1968.90	11.54	-0.38	-4.97	
18	17.62	0.93	1986.26	1981.38	11.51	-0.38	-4.88	
19	18.61	0.95	1998.35	1993.55	11.47	-0.39	-4.80	
20	19.61	0.97	2010.18	2005.45	11.43	-0.39	-4.73	
21	20.61	0.98	2021.80	2017.13	11.39	-0.39	-4.67	
22	21.60	0.99	2033.25	2028.63	11.35	-0.40	-4.62	
23	22.60	1.00	2044.54	2039.98	11.31	-0.40	-4.56	
24	23.60	1.01	2055.72	2051.21	11.26	-0.40	-4.51	
25	24.60	1.01	2066.81	2062.34	11.22	-0.40	-4.47	
26	25.60	1.01	2077.83	2073.40	11.17	-0.40	-4.43	
27	26.60	1.01	2088.82	2084.42	11.13	-0.40	-4.40	
28	27.60	1.01	2099.80	2095.43	11.08	-0.40	-4.37	
29	28.60	1.00	2110.78	2106.45	11.04	-0.40	-4.33	
30	29.61	1.00	2121.81	2117.50	10.99	-0.39	-4.31	
31	30.61	0.99	2132.89	2128.61	10.94	-0.39	-4.28	
32	31.61	0.97	2144.06	2139.80	10.89	-0.39	-4.26	
33	32.62	0.96	2155.34	2151.11	10.85	-0.38	-4.23	
34	33.62	0.94	2166.80	2162.57	10.80	-0.38	-4.23	
35	34.63	0.92	2178.41	2174.20	10.75	-0.37	-4.21	
36	35.64	0.90	2190.24	2186.05	10.70	-0.36	-4.19	
37	36.65	0.88	2202.32	2198.14	10.65	-0.35	-4.18	
38	37.65	0.85	2214.70	2210.54	10.60	-0.35	-4.16	
39	38.66	0.82	2227.44	2223.28	10.56	-0.34	-4.16	
40	39.67	0.79	2240.59	2236.44	10.51	-0.33	-4.15	
41	40.69	0.76	2254.23	2250.09	10.47	-0.31	-4.14	
42	41.70	0.73	2268.44	2264.31	10.42	-0.30	-4.13	
43	42.71	0.69	2283.34	2279.22	10.38	-0.29	-4.12	
44	43.73	0.65	2299.06	2294.94	10.34	-0.27	-4.12	

45	44.74	0.61	2315.76	2311.65	10.29	-0.26	-4.11	
46	45.76	0.56	2333.68	2329.58	10.26	-0.24	-4.10	
47	46.78	0.51	2353.13	2349.04	10.22	-0.22	-4.09	
48	47.80	0.46	2374.51	2370.44	10.18	-0.20	-4.07	
49	48.82	0.41	2398.47	2394.43	10.15	-0.18	-4.04	
50	49.84	0.35	2425.94	2421.97	10.11	-0.16	-3.97	
51	50.87	0.29	2458.54	2454.69	10.08	-0.13	-3.85	
52	51.90	0.22	2499.26	2495.66	10.06	-0.10	-3.60	
53	52.93	0.15	2554.85	2551.85	10.22	-0.07	-3.00	
54	53.96	0.08	2646.79	2643.72	8.07	-0.04	-3.07	
55	54.60	0.03	2772.46	2722.77	3.87	-0.40	-49.69	**

Table 7

Comparability Study Results for Exit Level Science

Paper Test Raw Score	Equated Computer Test Raw Score	Standard Deviation of Computer Raw Scores	Paper Test Scale Score	Computer Test Scale Score	Standard Deviation of Computer Scale Scores	Difference in Raw Scores	Difference in Scale Scores	Significant Difference
0	0.38	0.02	1369.95	1419.82	3.06	0.38	49.87	**
1	1.00	0.05	1502.53	1501.68	5.73	0.00	-0.85	
2	2.02	0.08	1598.68	1598.78	5.94	0.02	0.10	
3	3.04	0.10	1657.06	1658.53	5.00	0.04	1.47	
4	4.07	0.13	1699.81	1702.03	4.63	0.07	2.22	
5	5.10	0.15	1733.92	1736.62	4.46	0.10	2.70	
6	6.13	0.17	1762.54	1765.57	4.37	0.13	3.03	
7	7.15	0.19	1787.36	1790.63	4.30	0.15	3.27	
8	8.18	0.21	1809.40	1812.87	4.26	0.18	3.47	
9	9.20	0.23	1829.33	1832.96	4.23	0.20	3.63	
10	10.22	0.24	1847.61	1851.36	4.21	0.22	3.75	
11	11.25	0.26	1864.55	1868.42	4.18	0.25	3.87	
12	12.27	0.28	1880.41	1884.38	4.16	0.27	3.97	
13	13.29	0.29	1895.37	1899.43	4.15	0.29	4.06	
14	14.31	0.30	1909.58	1913.72	4.13	0.31	4.14	
15	15.33	0.31	1923.15	1927.37	4.12	0.33	4.22	
16	16.34	0.33	1936.18	1940.48	4.11	0.34	4.30	
17	17.36	0.34	1948.75	1953.12	4.10	0.36	4.37	
18	18.38	0.34	1960.93	1965.37	4.09	0.38	4.44	
19	19.39	0.35	1972.77	1977.28	4.08	0.39	4.51	
20	20.40	0.36	1984.33	1988.90	4.08	0.40	4.57	
21	21.42	0.37	1995.64	2000.28	4.07	0.42	4.64	
22	22.43	0.37	2006.75	2011.44	4.06	0.43	4.69	
23	23.44	0.38	2017.68	2022.44	4.06	0.44	4.76	
24	24.45	0.38	2028.48	2033.30	4.06	0.45	4.82	
25	25.46	0.38	2039.18	2044.05	4.06	0.46	4.87	
26	26.47	0.38	2049.79	2054.72	4.06	0.47	4.93	
27	27.47	0.39	2060.35	2065.34	4.06	0.47	4.99	
28	28.48	0.39	2070.89	2075.94	4.06	0.48	5.05	
29	29.48	0.38	2081.42	2086.52	4.06	0.48	5.10	
30	30.49	0.38	2091.97	2097.13	4.07	0.49	5.16	
31	31.49	0.38	2102.59	2107.80	4.07	0.49	5.21	
32	32.49	0.38	2113.28	2118.55	4.08	0.49	5.27	
33	33.49	0.37	2124.09	2129.42	4.08	0.49	5.33	
34	34.48	0.37	2135.04	2140.42	4.09	0.48	5.38	
35	35.48	0.36	2146.16	2151.59	4.09	0.48	5.43	
36	36.47	0.35	2157.48	2162.97	4.10	0.47	5.49	
37	37.47	0.35	2169.06	2174.59	4.10	0.47	5.53	
38	38.46	0.34	2180.92	2186.51	4.11	0.46	5.59	
39	39.45	0.33	2193.13	2198.81	4.14	0.45	5.68	
40	40.43	0.32	2205.83	2211.54	4.15	0.43	5.71	
41	41.42	0.30	2218.98	2224.75	4.16	0.42	5.77	
42	42.40	0.29	2232.70	2238.52	4.17	0.40	5.82	
43	43.39	0.28	2247.11	2253.00	4.19	0.39	5.89	
44	44.37	0.26	2262.35	2268.30	4.21	0.37	5.95	

45	45.34	0.24	2278.60	2284.62	4.24	0.34	6.02	
46	46.32	0.23	2296.08	2302.18	4.27	0.32	6.10	
47	47.29	0.21	2315.11	2321.29	4.31	0.29	6.18	
48	48.27	0.19	2336.11	2342.39	4.35	0.27	6.28	
49	49.23	0.16	2359.72	2366.13	4.42	0.23	6.41	
50	50.20	0.14	2386.92	2393.49	4.51	0.20	6.57	
51	51.17	0.12	2419.35	2426.16	4.65	0.17	6.81	
52	52.13	0.09	2460.08	2467.32	4.91	0.13	7.24	
53	53.09	0.06	2515.99	2524.30	5.55	0.09	8.31	
54	54.05	0.03	2609.09	2614.96	3.99	0.05	5.87	
55	54.64	0.01	2737.41	2690.90	1.58	-0.36	-46.51	**