

CMT-4 Technical Bulletin

Calculation of Scale Scores for the 2008 Administration (Form S)

Bureau of Student Assessment

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The Connecticut Mastery Test (CMT) for the 2007-2008 school year was administered in March 2008. Performance-level results are reported as scale scores. The following information is intended to help better understand the scale scores and how they were developed. Although this information is not necessary to interpret 2008 CMT results, it may be useful for understanding the relationship between students' raw scores and their scale scores.

A scale score ranging from 100 to 400 was generated for each content area: mathematics, science (grades 5 and 8), reading and writing. For each content area, scale scores are based on the raw scores (i.e., number of points earned). These raw scores are converted to scale scores to ensure accurate comparisons of student performance across different forms of the test by adjusting for slight differences in difficulty between test forms. Established psychometric procedures are used to ensure that a given scale score represents the same level of performance within the same grade and subject area regardless of the form of the test. For example, if a student receives a scale score of 270 on one form of the test and another student earns a 270 on a later form of the same test, the scaling process ensures that both scores represent the same level of performance. Based on this, scale scores are especially suitable for comparing the performance of different groups of students within the same grade from year to year and for maintaining the same performance standard across the years.

Table 1 **CMT-4 Scale Score Ranges**

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Mathematics						
Advanced	288 or Above	290 or Above	293 or Above	285 or Above	290 or Above	287 or Above
Goal	242-287	245-289	245-292	244-284	246-289	245-286
Proficient	210-241	215-244	215-244	214-243	216-245	214-244
Basic	187-209	194-214	191-214	190-213	191-215	191-213
Below Basic	186 or Below	193 or Below	190 or Below	189 or Below	190 or Below	190 or Below
Reading						
Advanced	279 or Above	295 or Above	279 or Above	289 or Above	273 or Above	282 or Above
Goal	235-278	244-294	230-278	236-288	222-272	232-281
Proficient	217-234	227-243	215-229	220-235	208-221	219-231
Basic	202-216	213-226	203-214	207-219	194-207	206-218
Below Basic	201 or Below	212 or Below	202 or Below	206 or Below	193 or Below	205 or Below
Writing						
Advanced	287 or Above	281 or Above	284 or Above	284 or Above	270 or Above	283 or Above
Goal	240-286	237-280	238-283	237-283	236-269	236-282
Proficient	212-239	209-236	209-237	211-236	213-235	212-235
Basic	188-211	185-208	186-208	185-210	192-212	189-211
Below Basic	187 or Below	184 or Below	185 or Below	184 or Below	191 or Below	188 or Below
Science						
Advanced	NA	NA	300 or Above	NA	NA	299 or Above
Goal	NA	NA	248-299	NA	NA	244-298
Proficient	NA	NA	213-247	NA	NA	221-243
Basic	NA	NA	188-212	NA	NA	202-220
Below Basic	NA	NA	187 or Below	NA	NA	201 or Below

Mathematics

Since the Mathematics test has only one component, scale scores can be derived directly from raw scores. The total raw score points for the Mathematics test is listed in Table 2 below. Then, using the 2008 Mathematics Scale Score Conversion Table (Appendix A) for the appropriate grade level, find the corresponding scale score associated with the student's raw score.

Grade	Total Raw Score Points
3	0-106
4	0-110
5	0-132
6	0-140
7	0-146
8	0-146

EXAMPLE: Nicholas is a student in grade 4. He earned 94 raw score points on the Mathematics test. Using the fourth grade 2008 Mathematics Scale Score Conversion Table (Appendix A), Nicholas's raw score of 94 is converted to a total mathematics scale score of 261.

Reading

Unlike the Mathematics test, the overall reading score is based on the results of two subtests: Degrees of Reading Power® (DRP) and Reading Comprehension. Each test accounts for 50% of the total reading scale score. Since the DRP has more score points than the Reading Comprehension test, the student's Reading Comprehension score is weighted in such a way as to equalize impact on the overall reading score.

In order to determine a student's reading scale score, first determine the number of raw score points earned on the Reading Comprehension test. This Reading Comprehension score must then be multiplied by the appropriate multiplier found in Table 3 below. Next, convert the DRP unit score to a raw score using the DRP Conversion Table (Appendix B). This conversion is required because the DRP score that appears on reports is a DRP unit score that is different from the raw score required for this calculation. Next, add the Reading Comprehension weighted raw score to the DRP raw score to find the student's composite reading raw score. Finally, using the grade-appropriate 2008 Reading Scale Score Conversion Table (Appendix C), find the corresponding scale score associated with the student's composite raw score.

Table 3						READING			
(50%)	Reading Comprehension	Grade	Raw Score Points	Multiplier	Weighted Raw Score Points				
		3	0-40	1.050	0-42				
		4	0-40	1.050	0-42				
		5	0-40	1.225	0-49				
		6	0-40	1.225	0-49				
		7	0-40	1.225	0-49				
		8	0-40	1.225	0-49				
(50%)	DRP	Grade	Raw Score Points						
		3	0-42						
		4	0-42						
		5	0-49						
		6	0-49						
		7	0-49						
		8	0-49						
Composite Raw Score = Reading Comprehension weighted raw score + DRP raw score		Grade	Range						
		3	0-84						
		4	0-84						
		5	0-98						
		6	0-98						
		7	0-98						
		8	0-98						

EXAMPLE: Liz is a student in grade 6. Her reading scores are shown in Figure 1 below. Liz earned 27 raw score points on the Reading Comprehension test. According to Table 3 on the previous page, this Reading Comprehension raw score must be multiplied by 1.225. This product of 33.075 (round to 33) is Liz’s Reading Comprehension weighted raw score.

Liz also earned a DRP unit score of 78. Using the DRP Conversion Table for grade 6 (Appendix B), a unit score of 78 indicates that Liz’s raw score is 43.

When the DRP raw score is added to the Reading Comprehension weighted raw score, the sum is Liz’s composite reading raw score, which equals 76. Using the sixth grade 2008 Reading Scale Score Conversion Table (Appendix C), Liz’s composite reading raw score is converted to a total reading scale score of 264.

Figure 1	<i>Liz’s Scores</i>	Raw Score	Multiplier	Weighted Raw Score
	Reading Comprehension	27	1.225	33
	DRP	Unit Score		Raw Score
		78		43
	Composite Reading Raw Score= Reading Comprehension weighted raw score + DRP raw score			76
	Reading Scale Score			264

Writing

Similar to reading, the overall writing score is based on the results of two subtests: Direct Assessment of Writing and Editing & Revising. However, unlike reading, the two writing subtests are not weighted equally. The Direct Assessment of Writing accounts for 60% of the total writing scale score and 40% is attributed to the Editing and Revising test. In order to achieve the overall writing score, a multiplier is used with the Direct Assessment of Writing score to compensate for unequal test lengths and differences in test weights.

In order to determine the overall writing score, first subtract two points from the student's Direct Assessment of Writing holistic score. This is the converted holistic score. Next, multiply the converted holistic score by the appropriate value found in the multiplier column of Table 4 below. To that product, add the raw score points earned on the Editing & Revising test. This resulting sum is the composite writing raw score. This value is the number to be used when finding the total writing scale score within the grade-appropriate 2008 Writing Scale Score Conversion Table (Appendix D).

Table 4		WRITING				
(60%)	<i>Direct Assessment of Writing</i>	Grade	Holistic Score Points	Converted Holistic Score	Multiplier	Weighted Holistic Score Points
		3	2-12	0-10	4.8	0-48
		4	2-12	0-10	4.8	0-48
		5	2-12	0-10	5.4	0-54
		6	2-12	0-10	5.4	0-54
		7	2-12	0-10	6	0-60
		8	2-12	0-10	6	0-60
(40%)	<i>Editing & Revising</i>	Grade	Raw Score Points			
		3	0-32			
		4	0-32			
		5	0-36			
		6	0-36			
		8	0-40			
Composite Raw Score= Direct Assessment of Writing weighted holistic score + Editing & Revising raw score		Grade	Range			
		3	0-80			
		4	0-80			
		5	0-90			
		6	0-90			
		7	0-100			
		8	0-100			

EXAMPLE: Josh is a student in grade 8. His writing scores are shown in Figure 2 below. Josh earned a holistic writing score of 10 on the Direct Assessment of Writing. This holistic score must be converted by subtracting 2 from 10. Josh’s writing raw score is noted in Figure 2 as 8. Then, according to Table 4 on the previous page, this converted raw score must be multiplied by 6. The product, 48, is Josh’s Direct Assessment of Writing weighted raw score.

Josh also earned 32 raw score points on the Editing & Revising test. This value must be added to the Direct Assessment of Writing weighted raw score resulting in a composite writing raw score of 80. Using the eighth grade 2008 Writing Scale Score Conversion Table (Appendix D), Josh’s composite writing raw score is converted to a total writing scale score of 289.

<i>Figure 2</i>	<i>Josh's Scores</i>	Holistic Score	Converted Holistic Score	Multiplier	Weighted Holistic Score
	Direct Assessment of Writing	10	8	6	48
	Editing & Revising	Raw Score Points			
		32			
	Composite Writing Raw Score= Direct Assessment of Writing weighted holistic score + Editing & Revising raw score			80	
	Writing Scale Score			289	

Science

Because the Science test has only one component, scale scores can be derived directly from raw scores. The total raw score points for the Science test is listed in Table 5 below. Then, using the 2008 Science Scale Score Conversion Table (Appendix E) for the appropriate grade level, find the corresponding scale score associated with the student's raw score.

Table 5	
SCIENCE	
Grade	Total Raw Score Points
5	0-42
8	0-51

EXAMPLE: Carlos is a student in grade 5. He earned 37 raw score points on the Science test. Using the fifth grade 2008 Science Scale Score Conversion Table (Appendix E), Nicholas's raw score of 37 is converted to a Science scale score of 309.

Features and Considerations Affecting the Use and Interpretation of the CMT Scale Scores

1. The scales for mathematics, reading and writing were established with a range from 100 to 400.
2. All mathematical manipulations of test scores (such as calculating the average score for a group of students) must be performed on the scale scores. Manipulating raw/holistic scores and then converting back to scale scores is an invalid use of the data.
3. These conversion tables are unique to the 2008 administration and may not be used with results from past or future CMT administrations.
4. The scale scores *within* a particular grade and content area will be comparable from one year to the next. That is, an average grade 4 mathematics scale score in 2008 could be compared to an average grade 4 mathematics scale score in subsequent years of the generation four CMT.
5. Scale scores are *not* comparable across content areas. For instance, a scale score on the mathematics section should not be compared with a scale score on the reading section.
6. Scale scores are *not* comparable across grade levels. For instance, a scale score on a third-grade test should not be compared to a scale score on a fourth-grade test.

Appendix A

2008 Mathematics Scale Score Conversion Tables

Grade 3

Table for Converting 2008 CMT Form S Raw Scores to Scale Scores

Mathematics

Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	100
009	100
010	100
011	100
012	100
013	100
014	100
015	100
016	100
017	100
018	100
019	100
020	100
021	100
022	100
023	100
024	100
025	102
026	105
027	107
028	110
029	112
030	115
031	117
032	119
033	121
034	124
035	126
036	128
037	130

Raw Score	Scale Score
038	132
039	134
040	136
041	138
042	140
043	142
044	144
045	146
046	148
047	150
048	152
049	154
050	156
051	157
052	159
053	161
054	163
055	165
056	167
057	169
058	171
059	172
060	174
061	176
062	178
063	180
064	182
065	184
066	186
067	188
068	190
069	192
070	194
071	196
072	198
073	200
074	203
075	205

Raw Score	Scale Score
076	207
077	210
078	212
079	214
080	217
081	219
082	222
083	225
084	227
085	230
086	233
087	236
088	239
089	242
090	246
091	249
092	253
093	257
094	261
095	266
096	271
097	276
098	282
099	288
100	296
101	304
102	314
103	328
104	346
105	376
106	400

Appendix A

Grade 4
Table for Converting 2008 CMT Form P' Raw Scores to Scale Scores
Mathematics

Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	100
009	100
010	100
011	100
012	100
013	100
014	100
015	100
016	102
017	105
018	108
019	111
020	114
021	117
022	119
023	122
024	124
025	127
026	129
027	131
028	133
029	136
030	138
031	140
032	142
033	144
034	146
035	148
036	150
037	152

Raw Score	Scale Score
038	154
039	155
040	157
041	159
042	161
043	163
044	164
045	166
046	168
047	170
048	171
049	173
050	175
051	176
052	178
053	180
054	182
055	183
056	185
057	187
058	188
059	190
060	192
061	193
062	195
063	197
064	199
065	200
066	202
067	204
068	206
069	207
070	209
071	211
072	213
073	215
074	216
075	218

Raw Score	Scale Score
076	220
077	222
078	224
079	226
080	228
081	230
082	232
083	235
084	237
085	239
086	241
087	244
088	246
089	249
090	251
091	254
092	257
093	260
094	263
095	267
096	270
097	274
098	278
099	282
100	287
101	292
102	297
103	304
104	311
105	319
106	329
107	341
108	358
109	387
110	400

Appendix A

Grade 5
Table for Converting 2008 CMT Form S Raw Scores to Scale Scores
Mathematics

Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	100
009	100
010	100
011	100
012	100
013	100
014	100
015	100
016	100
017	100
018	103
019	106
020	108
021	111
022	114
023	117
024	119
025	121
026	124
027	126
028	128
029	131
030	133
031	135
032	137
033	139
034	141
035	143
036	145
037	147

Raw Score	Scale Score
038	149
039	150
040	152
041	154
042	156
043	157
044	159
045	161
046	163
047	164
048	166
049	167
050	169
051	171
052	172
053	174
054	175
055	177
056	178
057	180
058	181
059	183
060	184
061	186
062	187
063	189
064	190
065	192
066	193
067	195
068	196
069	198
070	199
071	201
072	202
073	204
074	205
075	207

Raw Score	Scale Score
076	208
077	210
078	211
079	212
080	214
081	215
082	217
083	219
084	220
085	222
086	223
087	225
088	226
089	228
090	230
091	231
092	233
093	235
094	236
095	238
096	240
097	242
098	244
099	245
100	247
101	249
102	251
103	253
104	255
105	258
106	260
107	262
108	264
109	267
110	269
111	272
112	275
113	277

Raw Score	Scale Score
114	280
115	283
116	287
117	290
118	293
119	297
120	301
121	306
122	310
123	315
124	321
125	328
126	335
127	343
128	353
129	366
130	384
131	400
132	400

Appendix A

Grade 6
Table for Converting 2008 CMT Form S Raw Scores to Scale Scores
Mathematics

Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score
000	100	038	166	076	217	114	271
001	100	039	168	077	218	115	272
002	100	040	169	078	220	116	274
003	100	041	171	079	221	117	276
004	100	042	172	080	222	118	278
005	100	043	174	081	223	119	281
006	100	044	175	082	225	120	283
007	100	045	177	083	226	121	285
008	100	046	178	084	227	122	288
009	100	047	180	085	228	123	290
010	100	048	181	086	230	124	293
011	101	049	182	087	231	125	296
012	105	050	184	088	232	126	299
013	109	051	185	089	233	127	302
014	112	052	187	090	235	128	305
015	115	053	188	091	236	129	309
016	119	054	189	092	237	130	313
017	122	055	191	093	239	131	317
018	124	056	192	094	240	132	322
019	127	057	193	095	241	133	327
020	130	058	195	096	243	134	333
021	132	059	196	097	244	135	340
022	135	060	197	098	245	136	349
023	137	061	198	099	247	137	360
024	139	062	200	100	248	138	376
025	142	063	201	101	250	139	400
026	144	064	202	102	251	140	400
027	146	065	204	103	252		
028	148	066	205	104	254		
029	150	067	206	105	255		
030	152	068	207	106	257		
031	154	069	209	107	259		
032	156	070	210	108	260		
033	157	071	211	109	262		
034	159	072	212	110	263		
035	161	073	213	111	265		
036	163	074	215	112	267		
037	164	075	216	113	269		

Appendix A

Grade 7
Table for Converting 2008 CMT Form S Raw Scores to Scale Scores
Mathematics

Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	104
009	109
010	113
011	117
012	121
013	125
014	128
015	131
016	134
017	137
018	139
019	142
020	144
021	147
022	149
023	151
024	153
025	155
026	157
027	159
028	161
029	163
030	164
031	166
032	168
033	169
034	171
035	173
036	174
037	176

Raw Score	Scale Score
038	177
039	179
040	180
041	181
042	183
043	184
044	185
045	187
046	188
047	189
048	191
049	192
050	193
051	194
052	195
053	197
054	198
055	199
056	200
057	201
058	203
059	204
060	205
061	206
062	207
063	208
064	209
065	211
066	212
067	213
068	214
069	215
070	216
071	217
072	218
073	219
074	220
075	222

Raw Score	Scale Score
076	223
077	224
078	225
079	226
080	227
081	228
082	229
083	230
084	231
085	233
086	234
087	235
088	236
089	237
090	238
091	239
092	241
093	242
094	243
095	244
096	245
097	247
098	248
099	249
100	250
101	252
102	253
103	254
104	256
105	257
106	258
107	260
108	261
109	263
110	264
111	266
112	267
113	269

Raw Score	Scale Score
114	270
115	272
116	273
117	275
118	277
119	279
120	281
121	283
122	284
123	287
124	289
125	291
126	293
127	295
128	298
129	301
130	303
131	306
132	309
133	313
134	316
135	320
136	324
137	328
138	333
139	339
140	345
141	353
142	362
143	373
144	390
145	400
146	400

Appendix A

Grade 8
Table for Converting 2008 CMT Form S Raw Scores to Scale Scores
Mathematics

Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	101
007	107
008	112
009	117
010	122
011	126
012	129
013	133
014	136
015	139
016	142
017	145
018	148
019	150
020	152
021	155
022	157
023	159
024	161
025	163
026	165
027	167
028	169
029	171
030	172
031	174
032	176
033	177
034	179
035	180
036	182
037	183

Raw Score	Scale Score
038	185
039	186
040	188
041	189
042	190
043	192
044	193
045	194
046	195
047	197
048	198
049	199
050	200
051	202
052	203
053	204
054	205
055	206
056	207
057	208
058	210
059	211
060	212
061	213
062	214
063	215
064	216
065	217
066	218
067	219
068	220
069	221
070	222
071	223
072	225
073	226
074	227
075	228

Raw Score	Scale Score
076	229
077	230
078	231
079	232
080	233
081	234
082	235
083	236
084	237
085	238
086	239
087	240
088	241
089	242
090	244
091	245
092	246
093	247
094	248
095	249
096	250
097	251
098	253
099	254
100	255
101	256
102	257
103	259
104	260
105	261
106	262
107	264
108	265
109	266
110	268
111	269
112	271
113	272

Raw Score	Scale Score
114	273
115	275
116	277
117	278
118	280
119	281
120	283
121	285
122	287
123	289
124	291
125	293
126	295
127	297
128	300
129	302
130	305
131	307
132	310
133	313
134	317
135	320
136	324
137	329
138	333
139	339
140	345
141	352
142	361
143	372
144	388
145	400
146	400

Appendix B

DRP Conversion Tables

Grade 3

Table for Converting 2008 CMT Form S (CSC-3) DRP Unit Scores (p = .70) to Raw Scores

DRP Unit Score	Raw Score
95	42
87	41
79	40
74	39
71	38
68	37
65	36
63	35
61	34
59	33
58	32
56	31
55	30
53	29
52	28
51	27
49	26
48	25
47	24

DRP Unit Score	Raw Score
46	23
45	22
43	21
42	20
41	19
40	18
39	17
37	16
36	15
35	14
33	13
32	12
31	11
29	10
27	09
26	08
24	07
22	06
19	05

DRP Unit Score	Raw Score
17	04
14	03
14	02
14	01
14	00

Grade 4

Table for Converting 2008 CMT Form S (CSC-4) DRP Unit Scores (p = .70) to Raw Scores

DRP Unit Score	Raw Score
99	42
91	41
83	40
78	39
75	38
72	37
69	36
67	35
65	34
64	33
62	32
60	31
59	30
57	29
56	28
55	27
53	26
52	25
51	24

DRP Unit Score	Raw Score
50	23
48	22
47	21
46	20
45	19
44	18
42	17
41	16
40	15
38	14
37	13
36	12
34	11
33	10
31	09
29	08
27	07
25	06
23	05

DRP Unit Score	Raw Score
20	04
16	03
14	02
14	01
14	00

Appendix B

Grade 5

Table for Converting 2008 CMT Form S (CSC-5) DRP Unit Scores (p = .75) to Raw Scores

DRP Unit Score	Raw Score	DRP Unit Score	Raw Score	DRP Unit Score	Raw Score
100	49	55	29	33	09
96	48	54	28	31	08
88	47	53	27	29	07
83	46	52	26	27	06
80	45	51	25	25	05
77	44	50	24	23	04
75	43	49	23	19	03
73	42	48	22	15	02
71	41	47	21	14	01
69	40	46	20	14	00
68	39	45	19		
66	38	44	18		
65	37	43	17		
63	36	42	16		
62	35	41	15		
61	34	40	14		
60	33	38	13		
59	32	37	12		
58	31	36	11		
57	30	34	10		

Grade 6

Table for Converting 2008 CMT Form S (CSC-6) DRP Unit Scores (p = .75) to Raw Scores

DRP Unit Score	Raw Score	DRP Unit Score	Raw Score	DRP Unit Score	Raw Score
100	49	59	29	37	09
99	48	58	28	35	08
91	47	57	27	34	07
86	46	56	26	32	06
83	45	55	25	29	05
80	44	54	24	27	04
78	43	53	23	23	03
76	42	52	22	19	02
74	41	51	21	14	01
72	40	50	20	14	00
71	39	49	19		
69	38	48	18		
68	37	47	17		
67	36	46	16		
66	35	45	15		
64	34	44	14		
63	33	42	13		
62	32	41	12		
61	31	40	11		
60	30	38	10		

Appendix B

Grade 7

Table for Converting 2008 CMT Form S (CSC-7) DRP Unit Scores (p = .80) to Raw Scores

DRP Unit Score	Raw Score
100	49
98	48
91	47
87	46
83	45
81	44
78	43
77	42
75	41
73	40
72	39
70	38
69	37
68	36
67	35
65	34
64	33
63	32
62	31
61	30

DRP Unit Score	Raw Score
60	29
59	28
58	27
57	26
56	25
55	24
54	23
53	22
52	21
51	20
50	19
49	18
48	17
47	16
46	15
44	14
43	13
42	12
41	11
39	10

DRP Unit Score	Raw Score
38	09
36	08
34	07
32	06
30	05
27	04
24	03
20	02
14	01
14	00

Grade 8

Table for Converting 2008 CMT Form S (CSC-8) DRP Unit Scores (p = .80) to Raw Scores

DRP Unit Score	Raw Score
100	49
100	48
93	47
88	46
85	45
83	44
80	43
78	42
77	41
75	40
74	39
72	38
71	37
70	36
69	35
68	34
66	33
65	32
64	31
63	30

DRP Unit Score	Raw Score
62	29
61	28
60	27
59	26
58	25
57	24
56	23
56	22
55	21
54	20
53	19
51	18
50	17
49	16
48	15
47	14
46	13
45	12
43	11
42	10

DRP Unit Score	Raw Score
41	09
39	08
37	07
35	06
33	05
30	04
27	03
22	02
15	01
14	00

Appendix C

2008 Reading Scale Score Conversion Tables

Grade 3

Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Reading

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	103
009	108
010	113
011	117
012	121
013	125
014	129
015	132
016	136
017	139
018	142
019	145
020	148
021	151
022	154
023	157
024	159
025	162
026	164
027	167
028	169
029	172
030	174
031	176
032	179
033	181
034	183
035	186
036	188
037	190

Composite Raw Score	Scale Score
038	193
039	195
040	197
041	199
042	202
043	204
044	206
045	208
046	211
047	213
048	215
049	218
050	220
051	222
052	225
053	227
054	230
055	232
056	234
057	237
058	240
059	242
060	245
061	248
062	250
063	253
064	256
065	259
066	262
067	266
068	269
069	272
070	276
071	280
072	284
073	288
074	293
075	298

Composite Raw Score	Scale Score
076	304
077	310
078	316
079	324
080	333
081	345
082	361
083	387
084	400

Grade 4
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Reading

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	101
009	106
010	111
011	116
012	120
013	125
014	128
015	132
016	136
017	139
018	142
019	145
020	149
021	151
022	154
023	157
024	160
025	163
026	165
027	168
028	170
029	173
030	175
031	178
032	180
033	182
034	185
035	187
036	189
037	191

Composite Raw Score	Scale Score
038	194
039	196
040	198
041	200
042	203
043	205
044	207
045	209
046	212
047	214
048	216
049	219
050	221
051	223
052	226
053	228
054	230
055	233
056	235
057	238
058	240
059	243
060	246
061	248
062	251
063	254
064	257
065	260
066	263
067	267
068	270
069	274
070	278
071	281
072	286
073	290
074	295
075	300

Composite Raw Score	Scale Score
076	306
077	312
078	319
079	327
080	337
081	349
082	366
083	394
084	400

Grade 5
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Reading

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	100
009	100
010	100
011	105
012	109
013	112
014	116
015	119
016	123
017	126
018	129
019	132
020	134
021	137
022	140
023	142
024	145
025	147
026	149
027	152
028	154
029	156
030	158
031	160
032	163
033	165
034	167
035	169
036	171
037	173

Composite Raw Score	Scale Score
038	175
039	177
040	179
041	180
042	182
043	184
044	186
045	188
046	190
047	192
048	194
049	196
050	198
051	199
052	201
053	203
054	205
055	207
056	209
057	211
058	213
059	215
060	217
061	219
062	221
063	223
064	225
065	227
066	230
067	232
068	234
069	236
070	239
071	241
072	243
073	246
074	248
075	251

Composite Raw Score	Scale Score
076	254
077	257
078	259
079	262
080	265
081	269
082	272
083	275
084	279
085	283
086	287
087	291
088	296
089	301
090	307
091	313
092	320
093	328
094	338
095	350
096	367
097	394
098	400

Grade 6
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Reading

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	105
009	110
010	115
011	119
012	123
013	127
014	131
015	134
016	137
017	140
018	143
019	146
020	149
021	151
022	154
023	156
024	158
025	161
026	163
027	165
028	167
029	170
030	172
031	174
032	176
033	178
034	180
035	182
036	184
037	186

Composite Raw Score	Scale Score
038	187
039	189
040	191
041	193
042	195
043	197
044	199
045	201
046	202
047	204
048	206
049	208
050	210
051	212
052	213
053	215
054	217
055	219
056	221
057	223
058	225
059	227
060	229
061	231
062	233
063	235
064	237
065	239
066	241
067	243
068	245
069	247
070	250
071	252
072	254
073	257
074	259
075	262

Composite Raw Score	Scale Score
076	264
077	267
078	270
079	273
080	276
081	279
082	282
083	285
084	289
085	293
086	297
087	301
088	305
089	310
090	316
091	322
092	329
093	337
094	346
095	358
096	374
097	400
098	400

Grade 7
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Reading

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	100
009	100
010	100
011	103
012	108
013	112
014	115
015	119
016	122
017	126
018	129
019	132
020	134
021	137
022	140
023	142
024	145
025	147
026	150
027	152
028	155
029	157
030	159
031	161
032	163
033	165
034	167
035	170
036	172
037	174

Composite Raw Score	Scale Score
038	176
039	178
040	180
041	181
042	183
043	185
044	187
045	189
046	191
047	193
048	195
049	197
050	199
051	201
052	202
053	204
054	206
055	208
056	210
057	212
058	214
059	216
060	218
061	220
062	222
063	224
064	226
065	228
066	230
067	232
068	234
069	237
070	239
071	241
072	243
073	246
074	248
075	251

Composite Raw Score	Scale Score
076	253
077	256
078	259
079	262
080	264
081	267
082	271
083	274
084	277
085	281
086	285
087	289
088	294
089	298
090	304
091	310
092	316
093	324
094	333
095	345
096	361
097	388
098	400

Grade 8
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Reading

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	100
006	100
007	100
008	104
009	109
010	114
011	118
012	122
013	125
014	129
015	132
016	135
017	138
018	141
019	144
020	147
021	149
022	152
023	154
024	157
025	159
026	161
027	163
028	165
029	168
030	170
031	172
032	174
033	176
034	178
035	180
036	181
037	183

Composite Raw Score	Scale Score
038	185
039	187
040	189
041	191
042	192
043	194
044	196
045	198
046	199
047	201
048	203
049	205
050	206
051	208
052	210
053	212
054	213
055	215
056	217
057	219
058	221
059	222
060	224
061	226
062	228
063	230
064	231
065	233
066	235
067	237
068	239
069	241
070	243
071	245
072	247
073	250
074	252
075	254

Composite Raw Score	Scale Score
076	257
077	259
078	261
079	264
080	267
081	269
082	272
083	275
084	279
085	282
086	286
087	289
088	294
089	298
090	303
091	308
092	315
093	322
094	330
095	341
096	356
097	382
098	400

Appendix D

2008 Writing Scale Score Conversion Tables

Grade 3

Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Writing

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	107
005	114
006	119
007	124
008	128
009	131
010	135
011	138
012	140
013	143
014	145
015	148
016	150
017	153
018	155
019	157
020	159
021	162
022	164
023	166
024	169
025	171
026	173
027	176
028	178
029	181
030	183
031	186
032	188
033	191
034	194
035	196
036	199
037	202

Composite Raw Score	Scale Score
038	204
039	207
040	210
041	213
042	216
043	219
044	222
045	225
046	228
047	231
048	234
049	237
050	241
051	244
052	248
053	251
054	255
055	259
056	262
057	266
058	270
059	274
060	278
061	282
062	286
063	291
064	295
065	299
066	304
067	309
068	314
069	319
070	325
071	330
072	337
073	344
074	351
075	360

Composite Raw Score	Scale Score
076	370
077	382
078	398
079	400
080	400

Appendix D

Grade 4
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Writing

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	104
005	111
006	116
007	120
008	123
009	127
010	129
011	132
012	134
013	137
014	139
015	141
016	143
017	145
018	147
019	149
020	150
021	152
022	154
023	156
024	158
025	160
026	162
027	164
028	166
029	168
030	170
031	172
032	174
033	177
034	179
035	181
036	184
037	186

Composite Raw Score	Scale Score
038	189
039	192
040	194
041	197
042	200
043	203
044	206
045	209
046	212
047	215
048	219
049	222
050	225
051	229
052	233
053	236
054	240
055	244
056	248
057	252
058	256
059	260
060	264
061	268
062	272
063	276
064	280
065	284
066	288
067	293
068	297
069	302
070	307
071	312
072	317
073	323
074	330
075	338

Composite Raw Score	Scale Score
076	347
077	358
078	374
079	399
080	400

Appendix D

Grade 5
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Writing

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	107
006	112
007	116
008	120
009	123
010	126
011	128
012	131
013	133
014	136
015	138
016	140
017	142
018	144
019	146
020	148
021	150
022	152
023	154
024	156
025	158
026	161
027	163
028	165
029	167
030	170
031	172
032	174
033	177
034	179
035	182
036	185
037	187

Composite Raw Score	Scale Score
038	190
039	192
040	195
041	198
042	200
043	203
044	206
045	208
046	211
047	214
048	217
049	219
050	222
051	225
052	228
053	231
054	234
055	237
056	240
057	244
058	247
059	250
060	254
061	258
062	261
063	265
064	269
065	273
066	277
067	281
068	285
069	289
070	293
071	297
072	301
073	305
074	309
075	313

Composite Raw Score	Scale Score
076	317
077	321
078	326
079	330
080	335
081	340
082	346
083	352
084	358
085	366
086	374
087	385
088	400
089	400
090	400

Appendix D

Grade 6
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Writing

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	104
006	109
007	114
008	118
009	122
010	125
011	128
012	130
013	133
014	135
015	138
016	140
017	142
018	144
019	146
020	148
021	150
022	152
023	154
024	156
025	158
026	160
027	162
028	164
029	167
030	169
031	171
032	173
033	176
034	178
035	180
036	183
037	185

Composite Raw Score	Scale Score
038	188
039	190
040	193
041	196
042	198
043	201
044	204
045	206
046	209
047	212
048	214
049	217
050	220
051	223
052	226
053	229
054	232
055	235
056	239
057	242
058	246
059	249
060	253
061	257
062	261
063	265
064	269
065	273
066	277
067	282
068	286
069	291
070	295
071	300
072	304
073	309
074	313
075	318

Composite Raw Score	Scale Score
076	323
077	328
078	333
079	338
080	344
081	349
082	356
083	363
084	370
085	379
086	389
087	400
088	400
089	400
090	400

Appendix D

Grade 7
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Writing

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	102
005	109
006	114
007	119
008	123
009	126
010	129
011	132
012	134
013	137
014	139
015	141
016	143
017	145
018	146
019	148
020	150
021	152
022	153
023	155
024	156
025	158
026	159
027	161
028	163
029	164
030	166
031	167
032	169
033	171
034	172
035	174
036	176
037	177

Composite Raw Score	Scale Score
038	179
039	181
040	183
041	184
042	186
043	188
044	190
045	192
046	194
047	196
048	198
049	200
050	202
051	204
052	206
053	208
054	210
055	212
056	214
057	216
058	219
059	221
060	223
061	226
062	228
063	231
064	233
065	236
066	238
067	241
068	244
069	246
070	249
071	252
072	255
073	258
074	261
075	263

Composite Raw Score	Scale Score
076	266
077	269
078	272
079	275
080	278
081	281
082	285
083	288
084	291
085	294
086	298
087	302
088	305
089	309
090	313
091	318
092	322
093	327
094	333
095	340
096	347
097	357
098	370
099	392
100	400

Appendix D

Grade 8
Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Writing

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	106
006	112
007	117
008	121
009	125
010	128
011	131
012	133
013	136
014	138
015	140
016	142
017	144
018	146
019	148
020	149
021	151
022	153
023	154
024	156
025	157
026	159
027	160
028	162
029	164
030	165
031	167
032	168
033	170
034	171
035	173
036	175
037	177

Composite Raw Score	Scale Score
038	178
039	180
040	182
041	184
042	186
043	188
044	190
045	192
046	194
047	196
048	198
049	200
050	202
051	205
052	207
053	209
054	212
055	214
056	217
057	219
058	222
059	224
060	227
061	230
062	233
063	235
064	238
065	241
066	244
067	247
068	250
069	253
070	256
071	259
072	262
073	266
074	269
075	272

Composite Raw Score	Scale Score
076	275
077	279
078	282
079	285
080	289
081	292
082	296
083	300
084	303
085	307
086	311
087	315
088	319
089	324
090	329
091	334
092	339
093	345
094	351
095	358
096	366
097	377
098	392
099	400
100	400

Appendix E

2008 Science Scale Score Conversion Tables

Grade 5

Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Science

Composite Raw Score	Scale Score
000	100
001	100
002	100
003	100
004	100
005	110
006	121
007	130
008	138
009	145
010	152
011	159
012	165
013	171
014	177
015	182
016	188
017	193
018	198
019	203
020	208
021	213
022	218
023	223
024	228
025	233
026	238
027	243
028	248
029	254
030	259
031	265
032	271
033	277
034	284
035	292
036	300
037	309

Composite Raw Score	Scale Score
038	320
039	334
040	353
041	385
042	400

Appendix E

2008 Science Scale Score Conversion Tables

Grade 8

Table for Converting 2008 CMT Form S Composite Raw Scores to Scale Scores
Science

Composite Raw Score	Scale Score	Composite Raw Score	Scale Score
000	100	038	271
001	100	039	276
002	100	040	281
003	100	041	286
004	106	042	293
005	117	043	299
006	126	044	306
007	133	045	314
008	140	046	324
009	147	047	334
010	152	048	348
011	158	049	367
012	163	050	397
013	168	051	400
014	173		
015	177		
016	181		
017	186		
018	190		
019	194		
020	198		
021	202		
022	205		
023	209		
024	213		
025	217		
026	221		
027	224		
028	228		
029	232		
030	236		
031	240		
032	244		
033	248		
034	252		
035	257		
036	261		
037	266		