

**GREENWICH PUBLIC SCHOOLS  
MONITORING REPORT  
STUDENT ACHIEVEMENT: MATHEMATICS (E-003)  
NOVEMBER 1, 2007**

I hereby present my monitoring report on the District Ends Policy “Student Achievement.” I certify compliance and that the information contained in this report is accurate.

Signed: \_\_\_\_\_  
(Betty J. Sternberg, Superintendent of Schools)

Date: \_\_\_\_\_

**Accepted by Board of Education: November 29, 2007**

**BROADEST POLICY PROVISION**

*The District shall establish an assessment system that is aligned with the District’s Mission and Vision and provides a comprehensive, consistent and integrated system of student learner objectives / outcomes, assessment, analysis and reporting.*

**EXECUTIVE SUMMARY**

In order to ensure that all students master the objectives of the Greenwich curriculum and achieve to their highest potential, student achievement in math is assessed against four broad groups of indicators: 1) aggregate and disaggregate performance of standardized tests such as Connecticut Mastery Test (CMT) and the Connecticut Academic Performance Test (CAPT), 2) preparation for post secondary options including average scores on the Scholastic Assessment Test (SAT 1) and Advanced Placement Tests (AP), and 3) advancement in GPS math courses.

Accomplishments include increases in overall CMT and CAPT scores at all levels which reverses trends of flat to declining scores, improvement across nearly all schools, progress with subgroups of students, strong results compared to DRG B and, in some cases, relative to DRG A, full implementation of Everyday Math, Connected Math and new high school courses, and increased numbers of students at high-level classes.

Management issues include declining scores at one school and lower levels of achievement at the advanced level at another, continued under-performance of subgroups, and a substantial drop in SAT I math scores.

**Note:** Descriptions of the measures discussed in the next three sections and data tables describing student achievement over the last five years are attached at the end of this report.

## ACCOMPLISHMENTS / HIGHLIGHTS

### I. CMT results - elementary

1. **By student:** 80% of all students taking the 2006-2007 CMT for mathematics reached goal, halting a five year trend of relatively flat scores at the proficient and advanced level and the downward trend at the goal level. Over the last five years, the percentage of students scoring at the advanced level on the CMT math increased from 40% to 45%. (Reference Table 2)
2. **By school at goal:** In ten of the eleven elementary schools, the percentage of students performing at the goal level on the CMT increased. (Riverside, the one school not to increase at the goal level equaled its 05-06 percentages for students reaching goal which is 11 percentage points above the district average. For more discussion of results at Riverside, see Management Issue #3.) All three Title One schools made significant growth in the percentage of students reaching the goal level. Three elementary schools, including two Title One schools, set five year highs for the percentage of students reaching goal. (Reference Table 2)
3. **By school at advanced:** Eight of the eleven elementary schools realized increases at the advanced level over the previous year with seven elementary schools reaching five year highs. (Reference Table 2)
4. **By school at proficient:** Scores at the proficient range were mostly flat across all schools but remain relatively high. Eight of 11 schools scored 90% or better at proficient. The three elementary schools with students between 80% and 90%, Cos Cob, Julian Curtiss and New Lebanon, all increased at proficient from 05-06 to 06-07 as well as at the goal and advanced levels. Targeted assistance continues to be focused on those schools.
5. **Narrowing gaps:** We made progress towards narrowing the achievement gap between the District average and student subgroups. At the elementary and middle schools on CMT, four student subgroups (Asian, Black, Hispanic, and Free and Reduced Lunch) improved in reaching goal and advanced levels. Scores for English Language Learners and Special Education students remained flat. While we are pleased to report increases in scores of Black, Hispanic and F/R lunch students, overall, these students continue to under-perform district averages at advanced, goal and proficient levels by wide margins. (See Management Issue #5 for further discussion.) (Reference: Table 1)

6. 2007 Elementary CMT results are consistent with DRG B schools and within 3.6 – 4.5 percentage points of DRG A schools.

### Connecticut Mastery Test Mathematics by DRG (%) Gr 3-5

DRG	Students Tested	Proficient	Goal	Advanced
A	7075	95.2%	85.6%	46.5%
B	23021	92.9%	81.0%	42.2%
Greenwich	2012	91.6%	81.1%	42.5%
Greenwich vs DRG A		-3.6%	-4.5%	-4.0%
Greenwich vs DRG B		-1.3%	0.0%	0.3%

### II. CMT results – middle school

7. Eastern and Central showed considerable growth in all levels of the CMT. Both schools reached five year highs in advanced and CMS reached five year highs in all levels. Western's scores decreased or remained flat. WMS continues to under-perform the other two middle schools. (Reference Table 3) (For more discussion of WMS scores, see Management Issue #4.)
8. 2007 Middle School CMT comparisons to other DRGs are only meaningful if disaggregated by school. CMS scored above DRG B in advanced and even at goal and proficient. Relative to DRG A, CMS was 4 points off at advanced, 9 points off at goal and roughly even at proficient. EMS's scores resemble DRG A schools more than DRG B. EMS scored above DRG A schools in percentage at advanced and roughly even with DRG A in goal and proficient. WMS's scores lagged DRG B by considerable margins: 18 percentage points off at advanced, 20 percentage points off at goal, and 8 percentage points off at proficient. (Reference Table 4B) (Again, see Management Issue #4 for discussion of WMS.)

### III CAPT Results

9. On the 2007 CAPT, the percentage of Greenwich High School students achieving at the advanced level increased by 8% (35% - 43%), at the goal level by 6% (65% to 71%), and remained relatively flat at the proficient level. GHS scores matched or nearly matched their five year highs. (Reference Table 5.)
10. We made progress towards narrowing the achievement gap between the District average and student subgroups. Four student subgroups (Asian, Hispanic, SPED and Free and Reduced Lunch) improved significantly in reaching goal and advanced levels. English Language Learners and Special Education students did not have enough students for a subgroup score. While we are pleased that there are increases in the scores of Hispanics and F/R lunch students, overall, these latter two groups of students continue to under-perform district averages at advanced, goal and proficient levels by wide margins. (See Management Issue #5 for further discussion.) (Reference: Table 5)

11. CAPT scores ranked 17<sup>th</sup> out of 19 districts in DRG B at the proficient level. At the goal and advanced levels, however, GHS CAPT scores ranked 6<sup>th</sup> and 5<sup>th</sup> in the district. DRG A comparisons have not yet been calculated. Improving the percentage of students at all levels is a priority. See Management Issue #11 for a discussion of progress with students who have been achieving at lower levels.

#### IV. Course advances – 8<sup>th</sup> grade and high school

12. The April 2006 the phase two report, Mathematics Curriculum Review, was presented to the Board of Education. The report listed the percentage of students completing middle school mathematics and established enrollment targets for years 2006-2010. As the data in the Table below reveals, we are exceeding the targets established for grade 8 Algebra 1 and fractionally missing targets for 8<sup>th</sup> grade Geometry.

***Mathematics: Baseline and Target Data for Grade 8 students taking Geometry, Algebra I or Pre-Algebra in Middle School (as printed in 2006 Mathematics Program Review: Phase Two)***

Baseline	2001	2002	2003	2004	2005
<b>Geometry</b>	<b>3%</b>	<b>8%</b>	<b>9%</b>	<b>8%</b>	<b>9%</b>
<b>Algebra I</b>	<b>22%</b>	<b>30%</b>	<b>28%</b>	<b>33%</b>	<b>27%</b>
<b>Pre-Algebra</b>	<b>58%</b>	<b>47%</b>	<b>52%</b>	<b>50%</b>	<b>54%</b>
<b>Other</b>	<b>17%</b>	<b>15%</b>	<b>11%</b>	<b>9%</b>	<b>10%</b>

Targets	2006	2006 (Actual)	2007	2007 (Actual)	2008	2009	2010
<b>Geometry</b>	<b>10%</b>	<b>9%</b>	<b>11%</b>	<b>11%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>
<b>Algebra I</b>	<b>30%</b>	<b>36%</b>	<b>34%</b>	<b>41%</b>	<b>37%</b>	<b>42%</b>	<b>47%</b>
<b>Pre-Algebra</b>	<b>50%</b>	<b>51%</b>	<b>47%</b>	<b>40%</b>	<b>42%</b>	<b>38%</b>	<b>36%</b>
<b>Other</b>	<b>10%</b>	<b>4%</b>	<b>9%</b>	<b>8%</b>	<b>8%</b>	<b>8%</b>	<b>5%</b>

*Baseline Data Source: Supplied by middle school course registration records and stored in the Student Data Management System.*

13. In 2005 – 2006 the Mathematics Program review produced, in part, a curriculum written to raise the level of performance expectations of our academically at-risk students. In 2006 – 2007, the GHS remedial level courses of *Math Application Series 1, 2, and 3* were eliminated from the course offerings and two new courses were introduced: *Bridge to Algebra* and *Extended Algebra*. The *Bridge to Algebra* is a more rigorous pre-algebra course designed to prepare students to take an algebra course in the following year. *Extended Algebra* offers the student two additional blocks to work on the Carnegie Learning *Cognitive Tutor*: self-paced software designed to give students experience in working with realistic applications of mathematics. Furthermore, the GHS administration made a commitment to keep the size of classes with the most at-risk students lower than it had been in previous years. With lower class sizes, teachers who do not have a collaborative teacher or an aide are better able to give individual attention to at-risk students during the block time. It is too early to assess the impact of these new courses and lower class sizes.

		2003	2004	Change	2005	Change	2006	Change	2007	Change
<b>AB Calculus AB</b>	TOTAL	60	67	+12%	95	+42%	78	-18%	92	+18%
<b>AP Calculus BC</b>	TOTAL	26	28	+8%	45	+61%	61	+36%	62	+2%
<b>AP Statistics</b>	TOTAL	23	41	+78%	43	+49%	72	+68%	77	+7%
<b>Advanced Calculus</b>	TOTAL	10	10	0%	13	+3%	20	+54%	28	+40%

14. As noted in the table below, participation in the AP/Advanced Mathematics courses increased 35% in 2006 – 2007. As participation increased, the mean score on the AP exam either rose or remained stable in all four courses. The 2007–2008 enrollment of 259 students is up 12% over last year. This represents approximately 38% of the senior class. While the District is no longer funding the AP exams, approximately 95% of the students continue to take the exam. (Reference Table 7)

### V. Scholastic Achievement Test (SAT I)

15. The mean mathematics score on the Scholastic Achievement Test (SAT I) decreased from 586 in 2005 to 564 in 2007 as the participation rate increased from 90% to 93%. While there is a concern about the decline in the mean score, the percentage of students scoring in each interval remains fairly consistent. The decline in the mean can be attributable, in part, to the increased percentage of students scoring in the 200s and 300s interval. See Management Issue, #10 for further discussion. (Reference Table 6)

Interval	700s	600s	500s	400s	300s	200s	Total Tests	Senior Class Total
2005	105 (16%)	158 (23%)	154 (24%)	87 (13%)	22 (3%)	7 (1%)	533	653
2007	98 (14%)	165 (23%)	168 (24%)	123 (17%)	51 (7%)	12 (2%)	617	703

Percents are calculated from the Senior Class Totals

### GOVERNANCE ISSUES

1. Given the knowledge and skills required to succeed in a 21<sup>st</sup> Century's global economy, should the mathematics graduation requirement be increased from three credits to four credits? Are the graduation requirements, as stated in policy, sufficiently rigorous to ensure a high quality education for all students? Is there sufficient latitude within these requirements to address the needs of all students?
2. Attraction and retention of qualified mathematics teachers has become increasingly difficult at the middle and high schools. Over the past two years, we have hired eleven new secondary math staff. At Western, we have only three returning math teachers and just one tenured teacher out of six teachers. The principal states that the reasons these teachers cite for leaving the District are: significantly better salaries in Westchester County and matching salaries through-out Fairfield County, dissatisfaction with their commute, and inability to

find affordable housing in the immediate area. Additionally, we have found that our first and second hiring selections to fill vacancies have turned down offered positions in Greenwich in favor of teaching in other parts of the state. How can the District ensure that we retain our existing excellent staff while also attracting qualified new math teachers?

3. Currently the role and the responsibilities of the K-12 Mathematics Coordinator also include the broad supervision of the K-12 Science and 6-12 Technology Education programs. Providing the necessary leadership that all three programs deserve is becoming increasingly difficult as the demands of creating and monitoring program budgets, hiring and evaluating staff, planning professional development, managing the curriculum, monitoring both student and program assessment for each of these program areas are all considered. While this is primarily a Management Issue, it is important for Board to be appraised of possible changes in the supervision and direction of these three curricula areas.

## MANAGEMENT ISSUES

1. As the District implements the revised mathematics program, instructional time has emerged as a challenge at the middle school level. Daily mathematics instruction is scheduled differently at each middle school and ranges between 43 and 48 minutes. Teachers have raised the concern that it's difficult to adapt the Connected Math lessons into this timeframe.

### **Progress on this issue:**

The current dialogue between Middle School Administrators and the Coordinator will explore a balanced schedule that provides a sixty minute block of time of daily math instruction. However, what impact if any, will implementing a revised schedule have on other areas of the middle school curriculum? A comprehensive review through the Secondary Review Committee—to begin in January-- should help address this issue.

2. We continue to monitor our progress on improving our CMT scores in relation to both DRG B and DRG A. In 2007 our Elementary and Middle School CMT Math results show improvement in relation to both of these groups, however much work still needs to be done.

### **Progress on this issue:**

As noted earlier the trend of relatively flat scores that has been characteristic for the previous five years has shown positive growth in 2007. The teachers are meeting the challenge of working with the new third edition of Everyday Math. The creation of benchmark assessments will provide meaningful data on the progress of our students as well as identify at-risk students.

3. The dip in the percentage of students reaching the advanced level at Riverside has our attention. Analysis reveals that the drop was a result of fewer grade 4 students reaching the advanced level. On the 2006 CMT, 67% of Riverside's 3<sup>rd</sup> graders scored at advanced, well above DRG A averages and among the highest rates in the state. Those same students as 4<sup>th</sup> graders in 2007, had 42% percent reaching advanced. It is worth noting that while the

percentage at advanced in grade 4 decreased, the percentage at advanced in grade 5 was 44%, historically in line with past levels of achievement at Riverside.

**Progress on this issue:** The staff and administration of Riverside are well aware of the discrepancy in these scores and are aggressively investigating the causes of this decline. Overall, the five year trend at Riverside at the advanced level is up.

4. As noted in the highlights, WMS continues to under-perform the other two middle schools and DRG B comparison districts.

**Progress on this issue:** The current principal has taken bold steps to address staff deficiencies at WMS. Last year a combination of staff retention issues (two highly effective teachers left for personal reasons mid-year) and poor performance of staff led to significant staff turnover. Through professional learning and close monitoring and evaluation, the principal and Program Coordinator are working to ensure new staff are effectively implementing the program. In addition, during the summer of 2007, the principal and Program Coordinator met with math teachers at WMS to review data. This deep disaggregating of data has paved the way for targeted adjustments this year. WMS expanded a supplemental math program from the spring only to full year and refined curriculum and practices for the program. WMS offers before school math. Finally, WMS is emphasizing reading skills development as another strategy to address deficiencies in math. All math teachers, in addition to math goals, have reading goals. We will monitor progress carefully to see the effect of these changes.

5. The gap between achievement of GHS subgroups, primarily Black, Hispanic, Free and Reduced Lunch, and district averages continues to be large.

**Progress on this issue:** The Program Coordinator meets regularly with the Math Steering Committee. Part of their focus is on developing strategies for differentiation and making differentiation an explicit component of the curriculum. Additionally, a major focus this year is to develop teachers' ability to pretest students at the beginning of units in order to clearly identify needs and target instruction to meet all needs. Benchmark assessments are being implemented and with good data collection practices, we will be able to monitor the performance of all groups of students. Also, Everyday Math has been extended down to pre-school classes which should help prepare all students for kindergarten. Finally, we believe Everyday Math and Connected Math are appropriate programs for working with all students. As staff members become more comfortable with the programs, we will watch for progress with all.

6. Implementing the revised mathematics program requires a substantial investment in staff training.

**Progress on this issue:**

- Beginning in the summer of 2004 and extending through the fall of 2007, all K-5 classroom teachers received, and are receiving, extensive ongoing training in Everyday Mathematics.
- In June 2006, teachers in grades six through eight received initial Connected Mathematics training. This training has been supported throughout the current school year via the District's Professional Learning Program and at grade level meetings.
- In 2008-2009 we will complete the middle and high school textbook adoptions. This marks the first time that Algebra 1 and Honors Geometry courses will be taught using the same materials at these two levels. Cross grade-level professional learning opportunities are currently planned to help support these changes.
- In future years we plan to provide differentiated training at every program level to ensure that teachers new to the District receive appropriate initial training and that our experienced staff continues to improve their instructional practices.
- The District instituted a program of math classroom "Walk-Throughs" in 2005 to monitor changes in instructional practice. These observation protocols continue today and have even expanded to include other academic areas. While the focus has always been designed to guide the improvement of instruction, we do not want to lose sight of their original purpose, to create a safe, non-threatening environment for systematic reflection and dialogue observed in classroom practice.
- The adoption of the new third edition of Everyday Math has necessitated additional professional learning for elementary teachers. This is an ongoing project which is being supported in part by McGraw-Hill. The publisher of Everyday Math has promised the release of an alignment document which will help guide us through the process.

7. The District currently funds four part-time Mathematics Coaches through Consolidated Grant resources. There is a .5 Coach in each of the Title 1 schools and a .4 District Coach to assist teachers with the implementation of the revised mathematics program. Continuing the practice of supporting these positions through the Consolidated Grant is proving problematic.

**Progress on this issue:**

We have begun developing the capacity of building professional learning coaches to support mathematics. Coaches would provide training to new staff as well as instructional strategies and guidance to all teachers.

8. While summative assessments (CMT, CAPT, SAT1 and AP) are in place to measure program effectiveness, building implementation and student progress, assessment should also be used to guide instruction. The CMT is a very useful means of identifying areas of strength or weakness in the mathematics curriculum, but not very effective for making day-to-day instructional decisions in the classroom.

**Progress on this issue:**

The District is in the process of piloting a standards-based report card that assesses a student's progress against grade level curriculum objectives. Additionally, during the next ten months, the staff under the direction of the Program Coordinator will work on developing benchmark assessments across grades 1-5.

9. Early in the K-5 adoption process concerns were raised by some teachers and parents that the revised mathematics program sacrifices mastery of mathematics content (procedural and conceptual) and overemphasizes process (problem solving, reasoning, and communication).

**Progress on this issue:**

Communication of the GPS mathematics curriculum, the Everyday Math programs goals, the instructional methodology and the results of the 2007 mathematics CMT would argue that the concerns raised are not valid. The intent of the program revision is to strike a better balance between the two elements of content and process. Mastery of mathematics content is embedded in the curriculum objectives, assessed at the end of each marking period, tracked by the standards-based report card and monitored through standardized assessments such as the Connecticut Mastery Test. Part of this concern may stem from changes in pedagogy. Everyday Mathematics uses math games, instructional techniques such as "minute math" or "mental" math, and ongoing journal exercises to reinforce the acquisition of basic math facts, while programs which the District has used in the past relied more heavily on repetitive practice in workbooks.

10. As noted earlier, the mean mathematics score on the Scholastic Achievement Test (SAT I) decreased from 586 in 2005 to 564 in 2007 as the participation rate increased from 90% to 93%. The data indicates that the students scoring between 200 and 450 tend to be in either Algebra 2B or Geometry B.

**Progress on this issue:**

We anticipate a continued upward trend in SAT participation. We are pleased by that. The math teachers will meet to design a plan to better prepare all students for the exam.

11. Teachers experience a number of difficulties, primarily with the reading level of the Carnegie materials for the *Extended Algebra* and *Bridge to Algebra* classes when used with the more diversified group now enrolled in these courses.

**Progress on this issue:**

A committee of teachers met during the summer to rework the courses, a new textbook option was adopted for each course while preserving the software component to promote the problem solving and critical thinking. As noted earlier, the administration's commitment to maintain lower class sizes of these classes as well as building in an additional 2 blocks for students to work on the Cognitive Tutor and special projects has also provided important additional instructional supports.

12. Greenwich High school has adopted an open policy regarding enrollment in honors and AP courses, providing access to courses for which the student may not have been recommended.

Providing options for those students who experience difficulty at the AP and honors level has proven problematic when students find they are struggling and need to move back to the recommended level. The continuous movement of students creates an imbalance in many classes but also can be disruptive to have student addition and deletions going on through the first semester.

**Progress on this issue:**

We need to explore a better defined policy for when a student can enroll and when a student can drop a course so as not to put undo stress on class sizes.

**EXCEPTIONS**

1. None

## DESCRIPTION OF STANDARDIZED MEASURES

The **Connecticut Mastery Test (CMT)** is a state-mandated program that assesses and reports the achievement of students in grade three through grade eight in three areas: Mathematics, Reading, and Writing. Prior to the 2005-2006 school year, the CMT was administered in grades four, six and eight. The CMT assesses core academic competencies and serves as a key indicator of a student's readiness to successfully access the high school curriculum. Student scores are characterized by performance level: 5-Advanced, 4-Goal, 3-Proficient, 2-Basic and 1-Below Basic. Students scoring at the advanced level are performing at the top of all students across the state. Students scoring in the goal category possess the knowledge, ability, and skill necessary to successfully perform the tasks and assignments appropriately expected of a student with minimal teacher assistance. Students who score in the proficient category are able to successfully participate in their regular grade appropriate course work. The proficient standard is used to calculate adequate yearly progress under No Child Left Behind (NCLB). Students scoring below the proficient level require intervention to accelerate their academic progress.

The **Connecticut Academic Performance Test (CAPT)** is a state-mandated program that assesses and reports the achievement of tenth grade students in four areas: Mathematics, Science, Reading Across the Disciplines, and Writing Across the Disciplines. Student scores are characterized by performance level: 5-Advanced, 4-Goal, 3-Proficient, 2-Basic and 1-Below Basic. Students scoring at the advanced level are performing at the top of all students across the state. Students scoring in the goal category possess the knowledge, ability, and skill necessary to successfully perform the tasks and assignments appropriately expected of a student with minimal teacher assistance. Students who score in the proficient category are able to successfully participate in their regular grade appropriate course work. The proficient standard is used to calculate adequate yearly progress under No Child Left Behind (NCLB). Scoring at the proficient level or higher on the mathematics, reading and writing subtests is required for graduation from Greenwich High School. Students scoring below the proficient level require intervention to accelerate their academic progress.

The **Scholastic Assessment Test (SAT I)** is a measure of developed verbal and mathematical skills important for success in college. Scores are reported on a scale from 200 to 800. SAT1 is a college entrance examination and student participation is voluntary. Over the last five years, the percentage of graduating seniors taking SAT1 has been relatively constant in a range from 88% to 93%.

**Advanced Placement (AP)** is a College Board-sponsored program administered and operated by Educational Testing Service. The AP Program gives high school students an opportunity to take college-level courses and exams, and earn credit, advanced placement, or both for college. Greenwich High School offers sixteen advanced placement classes in five different disciplines. Examinations are administered in May and scored by the Educational Testing Service. AP Examination grades are reported on a 5-point scale as follows: 5-Extremely well qualified, 4-Well qualified, 3-Qualified, 2-Possibly qualified, 1-No recommendation. Greenwich High School offers two levels of AP calculus (AB and BC) and AP statistics. During the 2005-2006 school year, 28% of the graduating class was enrolled in AP mathematics.

# Appendices

**Table 1: Connecticut Mastery Test Mathematics by Student Subgroup (%)**

		02-03	03-04	04-05	05-06	06-07
District (all schools and grades)	Advanced	40	35	34	41	45
	Goal	81	77	77	77	80
	Proficient	93	91	91	92	92
Asian	Advanced	64	50	54	61	63
	Goal	84	81	85	91	92
	Proficient	99	95	94	97	96
Black	Advanced	4	5	6	7	10
	Goal	41	47	32	35	42
	Proficient	69	60	64	64	67
Hispanic	Advanced	17	7	13	19	20
	Goal	55	49	54	52	57
	Proficient	79	72	79	80	82
White	Advanced	42	38	37	44	48
	Goal	84	80	82	81	83
	Proficient	95	94	93	93	94
Female	Advanced	40	36	35	39	44
	Goal	81	77	78	77	80
	Proficient	93	92	92	92	92
Male	Advanced	39	35	34	44	46
	Goal	80	76	77	77	80
	Proficient	92	90	89	91	92
Special Education	Advanced	10	5	6	11	10
	Goal	39	35	26	38	39
	Proficient	66	68	53	64	63
English Language Learners	Advanced	8	3	9	24	22
	Goal	31	12	37	56	55
	Proficient	62	32	63	79	77
Free or Reduced Lunch	Advanced	10	6	6	8	10
	Goal	42	38	34	37	48
	Proficient	70	61	65	70	73

**Table 2: Connecticut Mastery Test Mathematics by Elementary School (%)**

		02-03	03-04	04-05	05-06	06-07
District (all schools and grades)	Advanced	40	35	34	41	45
	Goal	81	77	77	77	80
	Proficient	93	91	91	92	92
Cos Cob	Advanced	37	37	26	28	35
	Goal	81	76	74	66	74
	Proficient	91	88	92	84	87
Glenville	Advanced	51	40	26	30	42
	Goal	77	77	71	71	79
	Proficient	93	94	87	87	90
Hamilton Avenue	Advanced	23	21	11	20	24
	Goal	63	60	53	57	69
	Proficient	91	79	78	87	91
Dundee	Advanced	55	50	47	50	59
	Goal	93	87	78	85	89
	Proficient	100	94	93	96	93
Julian Curtiss	Advanced	22	30	30	25	46
	Goal	69	68	69	65	75
	Proficient	93	81	90	84	86
New Lebanon	Advanced	23	6	3	10	18
	Goal	73	38	47	48	66
	Proficient	82	65	66	76	80
North Mianus	Advanced	47	44	35	40	50
	Goal	94	81	81	80	83
	Proficient	98	97	96	94	91
North Street	Advanced	37	28	26	44	43
	Goal	93	79	78	81	85
	Proficient	99	96	97	96	96
Old Greenwich	Advanced	34	49	53	45	43
	Goal	94	89	90	83	86
	Proficient	99	98	95	93	95
Parkway	Advanced	48	47	32	41	43
	Goal	90	86	75	80	83
	Proficient	96	97	93	95	94
Riverside	Advanced	37	38	46	59	49
	Goal	97	79	96	91	91
	Proficient	98	95	100	99	98

**Table 3: Connecticut Mastery Test Mathematics by Middle School (%)**

		02-03	03-04	04-05	05-06	06-07
District (all schools and grades)	Advanced	40	35	34	41	45
	Goal	81	77	77	77	80
	Proficient	93	91	91	92	92
Central	Advanced	40	34	39	46	51
	Goal	81	77	81	78	81
	Proficient	93	93	93	91	94
Eastern	Advanced	49	47	39	57	59
	Goal	85	87	87	89	88
	Proficient	95	97	95	97	96
Western	Advanced	29	20	27	30	28
	Goal	66	64	64	66	62
	Proficient	84	84	83	86	86

**Table 4A: Connecticut Mastery Test Mathematics by DRG (%) Gr 3-5**

DRG	Students Tested	Proficient	Goal	Advanced
A	7075	95.2%	85.6%	46.5%
B	23021	92.9%	81.0%	42.2%
Greenwich	2012	91.6%	81.1%	42.5%
Greenwich vs DRG A		-3.6%	-4.5%	-4.0%
Greenwich vs DRG B		-1.3%	0.0%	0.3%

**Table 4B: Connecticut Mastery Test Mathematics by DRG (%) Gr 6-8**

DRG	Students Tested	Proficient	Goal	Advanced
A	7147	96.8%	90.0%	55.7%
B	23361	94.3%	82.7%	46.3%
Greenwich	1919	92.2%	78.4%	47.8%
Greenwich vs DRG A		-4.6%	-11.5%	-7.9%
Greenwich vs DRG B		-2.2%	-4.2%	1.5%

**Table 5: Connecticut Academic Performance Test Mathematics (%)**

		02-03	03-04	04-05	05-06	06-07
GHS (all students)	Advanced	41	39	43	35	43
	Goal	72	67	69	65	71
	Proficient	92	87	88	91	90
Asian	Advanced	69	52	57	52	65
	Goal	83	76	86	77	83
	Proficient	94	98	92	95	94
Black	Advanced	The number of students in this subgroup is insufficient for reporting purposes.				
	Goal					
	Proficient					
Hispanic	Advanced	11	18	13	5	17
	Goal	44	27	37	26	36
	Proficient	77	58	62	72	71
White	Advanced	45	41	48	41	48
	Goal	78	72	75	74	79
	Proficient	95	93	92	95	94
Female	Advanced	40	36	43	33	45
	Goal	70	64	69	67	68
	Proficient	92	88	91	92	89
Male	Advanced	43	42	43	38	41
	Goal	75	70	70	63	73
	Proficient	92	89	85	90	90
Special Education	Advanced	14	11	12	6	11
	Goal	36	31	25	21	33
	Proficient	69	66	56	65	60
English Language Learners	Advanced	The number of students in this subgroup is insufficient for reporting purposes.				
	Goal					
	Proficient					
Free or Reduced Lunch	Advanced	4	9	6	3	9
	Goal	24	20	31	22	26
	Proficient	60	56	51	71	57

**Table 6: Scholastic Assessment Test 1 Mathematics**

	02-03	03-04	04-05	05-06	06-07
% of Graduates Tested	92%	88%	91%	90%	93%
Mean Score	571	576	586	582	564

**Table 7: Advanced Placement Mathematics**

		02-03	03-04	04-05	05-06	06-07
Calc AB	# Tested	55	60	65	95	75
	Mean Score	3.3	3.5	4.0	4.0	4.1
Calc BC	# Tested	39	26	27	40	58
	Mean Score	4.7	4.6	4.6	4.7	4.6
Statistics	# Tested	24	23	38	40	68
	Mean Score	4.2	3.9	3.6	3.5	3.8