

# Interpretive Guide to the WinScan32 Score Reports for North Carolina End-of- Course Assessments

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North Carolina Department of Public Instruction



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## **Introduction**

WinScan32 is a software application provided to schools by the North Carolina Department of Public Instruction (NCDPI). This software permits administrators at the district level to produce a variety of score reports on demand, including Class Roster Reports, Score Frequency Reports, Achievement Level Frequency Reports, and Goal Summary Reports. *The Interpretive Guide to the WinScan32 Score Reports for NC End-of-Course Assessments* is intended to help educators understand these reports and to inform decision making at the student, classroom, school, and district levels. This guide will also help administrators and educators explain test results to parents and the general public.

The NCDPI also produces an interpretive document that is designed specifically for parents to understand the Individual Student Report (ISR) produced by IndivRpt32 software. This document, entitled *Understanding the Individual Student Report (UISR)*, is available online for every end-of-course (EOC), end-of-grade, and alternate assessment (<http://www.ncpublicschools.org/accountability/policies/uirs>). The UISR is designed for parents and teachers; whereas, the interpretive guides are designed for teachers and administrators at the school, district, and state levels. Together, the UISRs and interpretive guides provide guidance in interpreting the many reports that are generated by the WinScan32 software application.

## **How to Use This Guide**

This guide has been designed to give users quick access to the information needed when interpreting a specific WinScan32 report for end-of-course assessments. The table of contents can be used to identify a sample report for each type of WinScan32 report. Users can learn about all of the key features of the sample report by simply matching label numbers in the sample report to the label numbers in the *Index of Terms by Label Number*.

## **The WinScan32 Reports**

Each type of WinScan32 report has a common layout. The information on these reports, however, can be changed when users select certain options. For example, LEAs can produce class rosters using one of seven different grade calculation methods. Many variables are available to produce disaggregated results. When these reports are combined with the different assessments, user options, and data filters, a large number of reports can be produced. Table 1 shows a list of the reports described in subsequent pages and the audiences for which these reports are intended. The ISRs are designed for students, parents, teachers, and school administrators. Class Rosters are designed for teachers and school administrators. Score Frequency Reports, Achievement Level

Frequency Reports, and Goal Summary Reports are designed for teachers, school administrators, district administrators, and state administrators.

Table 1. *WinScan32 Reports and Intended Audience*

Report	Audience				
	Parent	Teacher	Administrators		
			School	District	State
Individual Student Report	✓	✓	✓		
Class Roster Reports		✓	✓		
Score and Achievement Level Frequency Reports		✓	✓	✓	✓
Goal Summary Reports		✓	✓	✓	✓

The WinScan32 reporting system can aggregate data at various levels, including class, school, district, and state levels. Table 2 presents the reporting levels of each group-level WinScan32 report.

Table 2. *Reporting Levels for Group-Level WinScan32 Reports*

Report	Reporting Level			
	Class	School	District	State
Class Roster Reports	✓	✓		
Score and Achievement Level Frequency Reports	✓	✓	✓	✓
Goal Summary Reports	✓	✓	✓	✓

The WinScan32 reporting system can also summarize scores across various subgroups including gender (male and female), ethnicity (American Indian, Asian, Black, Hispanic, Multi-racial, and White), and grade level. Table 3 presents the standard reporting groups available for each group-level WinScan32 report. School districts also have the option to merge in subgroups such as Students with Disabilities, Targeted Assistance Schools (reading and math), Limited English Proficient, and Migrant groups. When multiple subgroups are selected, reports are produced for every combination of the chosen subgroups.

Table 3. *Standard Reporting Groups for Group-Level WinScan32 Reports*

Report	Student Groups			
	All	Gender	Ethnicity	Gender & Ethnicity
Class Roster Reports	✓	✓	✓	✓
Score and Achievement Level Frequency Reports	✓	✓	✓	✓
Goal Summary Reports	✓	✓	✓	✓

*Note: Ethnicity includes the following: American Indian, Asian, Black, Hispanic, Multi-racial, and White.*

As seen in Tables 2 and 3, users have many options when producing WinScan32 reports, including many subject areas, four possible reporting levels, and four grouping variables to choose from, resulting in over 300 potential different reports.

## **North Carolina End-of-Course Assessments**

During the final weeks of a course, students take a state-required multiple-choice North Carolina End-of-Course (EOC) Test for selected courses. To see a complete list of EOC tests go to <http://www.ncpublicschools.org/accountability/testing/>. These curriculum-based achievement tests are specifically aligned to the North Carolina *Standard Course of Study* and include a variety of strategies to measure the achievement of North Carolina students. Depending on the specific subject tested, student scores from the EOC tests will be used in the computation of school growth and performance composites as required by the state-mandated ABCs Accountability Program and for determining Adequate Yearly Progress (AYP) under Title I mandates of the *No Child Left Behind (NCLB) Act of 2001*. To read more about NCLB go to <http://www.ncpublicschools.org/nclb/>. Student scores will also be used in determining student progress and proficiency under state-mandated Student Accountability Standards.

Key features of the EOC subject area tests:

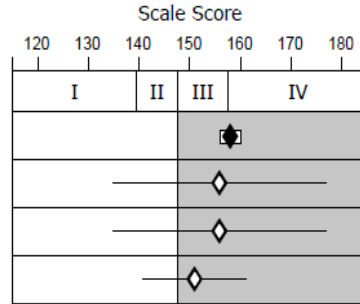
- Content area knowledge is assessed by having students read and answer questions related to the content area selections.
- The selections on the test are chosen to reflect the variety of actual material studied by students in and out of the classroom.
- Depending on the specific subject tested, there are 60–100 questions on each test. Please visit the website <http://www.ncpublicschools.org/accountability/policies/> for more information regarding high school tests and testing.

## **Individual Student Reports**

A sample Individual Student Report (ISR) for the EOC assessments is provided in Figure 1. Key features are labeled and explained in the *Index of Terms by Label Number*.

For a full explanation of the information provided in this report see: <http://www.ncpublicschools.org/docs/accountability/uirs/ueoc.pdf>

- 1** Scale Score 158
- 2** Percentile Rank (2006-2007) 75
- 3** Achievement Level IV
- 4** Quantile Framework® for Mathematics <sup>1</sup> 1200Q
- 5**
- 6** Student
- 7** School
- 8** System
- 9** State 2006-2007



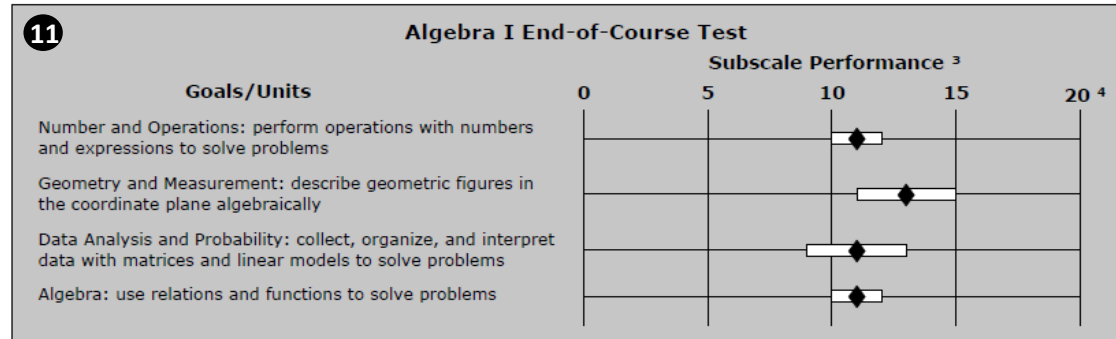
**10** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient in the course subject matter and skills and are very well prepared for a more advanced level in the content area.

Students performing at Achievement Level IV consistently show a high level of conceptual understanding, computational accuracy, and ability to respond with appropriate answers or procedures. They demonstrate capability by using a variety of problem-solving strategies.

Students at this level understand the translations of linear equations; successfully solve problems in the context of real-world situations; and interpret change in the slope, y-intercept, coefficients and constants. Level IV students are able to model and solve multi-step equations and inequalities in the context of multi-concept application problems.

<sup>1</sup> A Quantile® measure describes a student's mathematical ability and can be used to determine the student's readiness to learn mathematical skills and concepts. For more information, visit [www.Quantiles.com](http://www.Quantiles.com).

<sup>2</sup> For more information related to the local standards, contact your local school system.



<sup>3</sup> Please note that the subscale scores are less reliable than the scale score because there are fewer questions on which the score is based. Instructional and placement decisions should not be based solely on these subscale scores.

<sup>4</sup> The state average for all subscales is equivalent to 10. The subscale scores do not reflect the number of items aligned to each goal. All subscale scores have values between 0 and 20.

Figure 1. Sample ISR for the end-of-course assessment.



## Class Roster Reports

The class roster reports take on many different combinations. A class roster report can contain course-specific student scores for each content area independently or can contain course-specific student scores for combinations of content areas. Figure 2 presents a sample of the most common EOC roster report. This report is produced at the class level and the school level. A class roster report's features and layout do not differ across levels. WinScan32 produces two types of class rosters for EOC assessments. The first kind of roster excludes grades (Figure 2), and the second kind includes grades (Figure 3). Local promotion standards can be printed using the "Lowest Level III" or the "1 SEM" standard for select subjects. Class rosters with grades can use one of six different grade calculation methods. The *Index of Terms by Label Number* can be used to learn more about each labeled feature of these reports.

PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-COURSE TESTS 2009-2010							
Algebra I Class Roster							
Regular test administration							
13	LEASchCode =		HdrSchoolName =	14			
15	InstrName =		ClassPeriod =	16			
	TestDates =	17					
Algebra I Scores (64 Item Test *)							
Student Name	Grade Level	Scale Score (118-181)	18 Number Attempt	2 2007* Pctl Rank	3 Achieve Level	4 Quantile Measure	Form
1	09	Absent	0				L
2	13	181 <sup>a</sup>	64	99	4	1330Q	I
3	12	Not Taken <sup>b</sup>	0				J
4	11	121 <sup>a</sup>	0		1	535Q	K
5	10	181	64	99	4	1330Q	I
6	08	179	64	99	4	1330Q	L
7		146	64	53	2	985Q	L
8	09	139	64	11	1	860Q	J
9	09	143	64	41	3	1020Q	I
10	11	180	64	99	4	1330Q	K
11	10	Missing	0				K
12	10	166	64	91	4	1330Q	L
13	08	179	64	99	4	1330Q	J
14		153	64	78	4	1220Q	J
15		191	64	62	3	1130Q	K
16	11	110	64	7	1	805Q	K
17	12	Transfer	0				I
18	12	132	64	2	1	730Q	L
19		visiting	0				J
Class Mean		157.1					
* These : state percentile ranks were established from 2006-07 statewide data.							
¥ For more information on the Quantile Measure, visit <a href="http://www.Quantiles.com">www.Quantiles.com</a>							
¹ Student must score at Level III with one standard error of measurement and be in grade 9 or lower for the first time (2006-07). Passing score 145 = 148 (lowest Level III) - 3 (1 SEM).							
² There are 80 items on the test: 16 items are field test items while the other 64 are used for determining the scale score.							
³ Student repeating this course for credit initially failed							
ª Student assigned lowest possible score because no responses coded							
« Student took assessment online							
¼ Student scored below Level III but within 1 SEM of Level III cutoff							
Printed 3/29/2010 2:22:PM, winscan32 version 2.3.7.14							

Figure 2. Sample class roster for end-of-course assessments.

Figure 3 presents a roster report that combines regular and retest score results. This sample report also includes letter grades. These grades are based on the highest score obtained from the regular and retest results.

Algebra I Combined Regular/Retest 1 Class Roster  
 Teacher = \_\_\_\_\_ Semester = Fall, Class Period \_\_\_\_\_

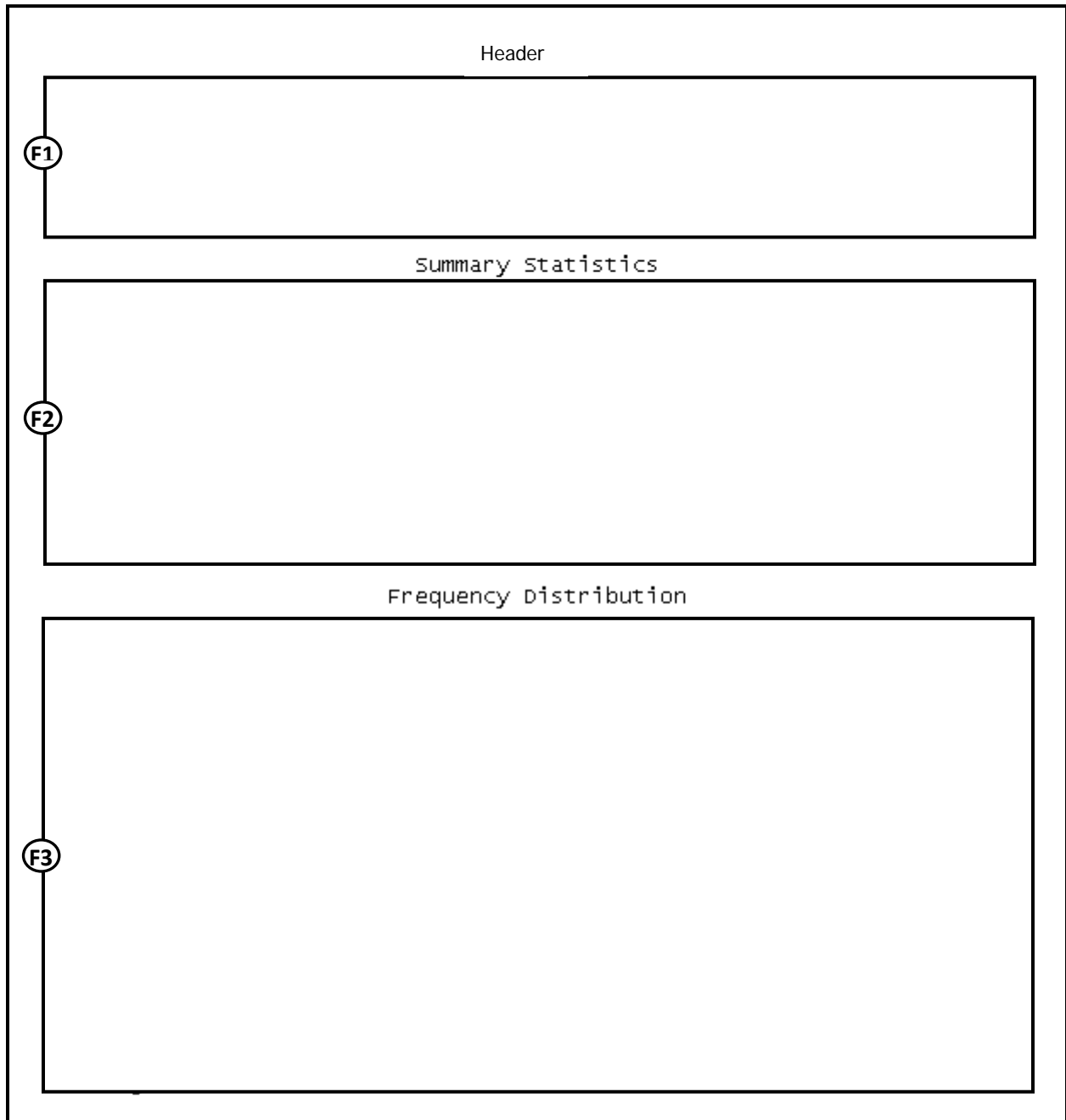
19 Grade Method: State Exit Standard Compatible  
 20 Passing score for Alg1Scale is 148 - 3 = 145

Student Name	ID Number	Grade Level	Regular		Retest 1		Highest Score		
			Scr	Lev	Scr	Lev	Scr	Lev	Grd
1			154	3	154	3	B	87	Reg
2			148	3	148	3	C	80	Reg
3			144	2	143	2	D	76	Reg
4			141	2	141	2	D	71	Reg
5			159	4	159	4	B	91	Reg
6			149	3	149	3	C	82	Reg
7			150	3	150	3	C	83	Reg
8			144	2	151	3	C	84	R 1
9			149	3	149	3	C	82	Reg
10			152	3	152	3	B	85	Reg
11			153	3	153	3	B	86	Reg
12			156	3	156	3	B	89	Reg
13			158	4	158	4	B	90	Reg
14			152	3	152	3	B	85	Reg
15			152	3	152	3	B	85	Reg
16			152	3	152	3	B	85	Reg
Means			150.7		147.0		151.2		

Figure 3. Sample class roster with Regular and Retest score results combined.



template consists of three sections: the header (F1), a summary table of statistics (F2), and a score frequency table (F3). Figures 6 through 8 describe the contents of each section.



*Figure 5.* Template design of the score frequency report for EOC assessments.

Figure 6 presents the header of a sample score frequency report for the Algebra I EOC assessment. The first line of the header describes the type of assessment and the school year. The second line of the header displays the specific type of assessment and the type

of report. The third line of the header displays the type of administration (regular or retest 1). LEASchCode (label 13) indicates the Local Educational Agency school code, the HdrSchoolName (label 14) indicates the school name, the InstrName (label 15) indicates the instructor's name, and the ClassPeriod (label 16) indicates the class period. TestDates (label 17) displays the administration dates.



Figure 6. The header of the score frequency report for a sample EOC Algebra I assessment.

Figure 7 presents the summary table of a sample score frequency report for the EOC Algebra I assessment. The top row of the summary table indicates that 14 students in this report had valid scores. The highest score was 181 and the lowest score was 121. The arithmetic mean score was 157.14 (label25), the standard deviation was 20.78 (label 26),

and the modes were 181 and 179 (label 27). The percentile scores are listed at the far right of the table (label 28). The scale scores are listed for the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 90<sup>th</sup> percentiles (label 1). The median score is 156.5.<sup>1</sup> In this sample, a scale score of 179 is in the 75th percentile. This means that a score of 179 is higher than *approximately* 75% of the 14 students included in this report. Percentiles are approximations since there may not be an observed scale score at or below which 75% of observations fall. In such cases, interpolation and rounding rules are employed to approximate a scale score associated with a percentile.

Summary statistics on scale score			
	Number of Students with Valid Scores	14	High score 181
			Low score 121
<b>F2</b>	<b>25</b> Mean	157.14	<b>28</b> Local Percentiles
			Scale <b>1</b>
	<b>26</b> Standard Deviation	20.78	90 181.0
			75 179.0
	<b>27</b> Mode	181,179	50 (Median) 156.5
			25 139.0
			10 132.0

Figure 7. The summary table of the frequency report for a sample EOC assessment.

Figure 8 presents the frequency table of the score frequency report for the EOC Algebra I assessment. The Scale Score column (label 1) presents every score earned by the 14

<sup>1</sup> This value was calculated by adding the two middle scores of 154 and 159 and dividing by 2.

students. The Frequency column (label 29) presents the number of students that earned each scale score. For example, one examinee earned a scale score of 154. The label of “Missing” indicates that five examinees did not receive a score. The Cumulative Frequency column (label 30) presents the total number of students that scored at or below a given scale score. This column shows 7 students scored at or below a scale score of 154. The Percent column (label 31) presents the percent of students that earned a given scale score (number of students that earned the score divided by total number of observations). This column shows that 7.14% of the students earned a score of 154. The Cumulative Percent column (label 32) displays the percent of students that scored at or below a given scale score. This column shows 50% of the students scored at or below a scale score of 154<sup>2</sup>. The Achievement Level column (label 3) displays the achievement level associated with each scale score. In this example, a scale score of 154 corresponds to an achievement level of III.

<b>1</b>	<b>29</b>	<b>30</b>	<b>Frequency Distribution</b>		<b>32</b>	<b>3</b>
Scale Score	Frequency	Cumulative Frequency	<b>31</b>		Cumulative Percent	Achievement Level
181	2	14	14.29		100.00	IV
180	1	12	7.14		85.71	IV
179	2	11	14.29		78.57	IV
165	1	9	7.14		64.29	IV
159	1	8	7.14		57.14	IV
154	1	7	7.14		50.00	III
148	1	6	7.14		42.86	III
146	1	5	7.14		35.71	II
139	1	4	7.14		28.57	I
136	1	3	7.14		21.43	I
132	1	2	7.14		14.29	I
121	1	1	7.14		7.14	I
Missing	5					

Figure 8. Frequency table of the score frequency report for the EOC Algebra I assessment.

<sup>2</sup> Note: The scale score of 154 associated with the cumulative percent of 50 in Figure 8 disagrees with the 50<sup>th</sup> percentile of 156.5 reported in Figure 7. This difference is due to the fact that cumulative percentages are based on the original scale scores which are integers, while percentile scores are transformed into continuous values using one of many interpolation methods. Methods used to compute percentiles may produce different conversion tables when sample sizes are small; however, as sample sizes become very large, differences between cumulative percentages and percentiles become negligible.

## Achievement Level Frequency Reports

Figure 9 displays a sample achievement level frequency report for an EOC Algebra I. The first line of the header indicates the report is for the 2009-2010 school year. The second line indicates the subject area and report type. The third line of the header displays the type of administration (Regular or Retest).

In this sample, the exam was a regular test administration. LEASchCode (label 13) indicates the Local Educational Agency (LEA) school code, the HdrSchoolName (label 14) indicates the school name, the InstrName (label 15) indicates the instructor's name, and the ClassPeriod (label 16) indicates the class period. TestDates (label 17) displays the examination administration dates. The Algebra I Achievement Levels column (label 3) presents every achievement level earned by the students. Students who do not have an achievement level are classified as 'blank'. The Frequency column (label 29) presents the number of students that earned each achievement level. The total count of students excludes blank scores. The sample shows one examinee scored an achievement level of II. The Percent of Total column (label 31) presents the percent of students that earned a given score (number of students that earned the score divided by total number of observations). This column shows that 7.14% of the students earned an achievement level of II. The Cumulative Frequency column (label 30) presents the total number of students that scored at or below a score in a given row. This column shows 5 students scored at or below an achievement level of II. The Cumulative Percent column (label 32) displays the percent of students that scored at or below a score in a given row. In the sample shown, 35.71% of the students scored at or below an achievement level of II. The summary statistics just below the frequency table show 9 of 14 students were classified as level III or IV. This indicates that 64.3% of the students were proficient. The Report Card lines provide a line for LEAs to record the score that is reported on the report card to see if the numbers match.



PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-COURSE TESTS 2009-2010  
Algebra I Achievement Level Frequency Report  
Regular test administration

13 LEASchCode = \_\_\_\_\_ HdrSchoolName = 14  
 15 InstrName = \_\_\_\_\_ ClassPeriod = 16  
 TestDates = 17

3 Algebra I Achievement Levels	29 Frequency	31 Percent of Total	30 Cumulative Frequency	32 Cumulative Percent
Blank **	5			
1	4	28.57	4	28.57
2	1	7.14	5	35.71
3	2	14.29	7	50.00
4	7	50.00	14	100.00
Total	14			

Number at Level III/IV: 9 Report Card \_\_\_\_\_  
 Percent at Level III/IV: 64.3 Report Card \_\_\_\_\_

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

\* "Blank" are students that did not have an achievement level.  
The frequency of the "Blank" category is not included in any calculations.  
Output from the "Report Card" can be written on this report for comparison.

Printed 3/29/2010 2:23:PM, WinScan32 Version 2.3.7.14

Figure 9. Sample achievement level frequency report for a sample Algebra I EOC assessment.

## Goal Summary Reports

The goal summary report is a course-specific report that summarizes student performance for each learning goal or essential standard. The goal summary report groups students at the school, district, or state level. Typically, the goal summary report reflects scores at the goal level.

Figure 10 displays a sample goal summary report. Key features are labeled and explained in the *Index of Terms by Label Number*. The standard protocol for reporting subscale scores requires that any goal with fewer than five items does not produce a level of reliability sufficient for score reporting. The goal summary report provides valid data about curriculum implementation only when 1) all forms are administered within the same classroom, school, or LEA, 2) there are at least five students per form, and 3) approximately equal numbers of students have taken each form. It is best to compare a group's weighted mean percent correct (label 35) with the state weighted mean (not shown in report) to determine how far above or below the state weighted mean the group has performed. This comparison is most appropriate because forms are comparable at a total test level but not at the goal level. In the example provided in figure 10, the difference scores (label 36) displays subscale performance relative to the 2008-09 state mean percent correct. The negative values of -9.3 and -8.4 indicate performance below the state mean percent correct. If positive values appeared here, performance of this system would be considered higher than the state mean. Caution should be exercised when interpreting these values since confidence intervals are not reported with these scores. Differences may not be statistically significant.

PUBLIC SCHOOLS OF NORTH CAROLINA END-OF-COURSE TESTS 2009-2010  
Algebra II Summary Goal Report

SystemCode = \_\_\_\_\_ SystemName = \_\_\_\_\_

	25	33	34	35	36
	Scale Score Mean	Number of Observations	Percent of 51 Items	weighted Mean Percent Correct	Difference from 2008-09 State Mean Percent Correct
Algebra II	148.1	154	100.0%		
State 2008-2009 <sup>1</sup>	151.9	75070			
State 2007-2008	150.9	74660			
Goal 1: Perform operations with complex numbers, matrices, and polynomials			25.5%	48.4	-9.3
Goal 2: Use relations and functions to solve problems			74.5%	49.2	-8.4

---

Number of Students Taking Form <sup>2</sup>	K	L	M	N	O
	0	39	35	39	38

<sup>\*</sup> As not all forms are taken by the same numbers of students, the weighted mean scores take into account not only the percent of items correct but also the numbers of students taking those forms.

<sup>1</sup> The test forms used year to year may be different. Tests are equivalent at the total score level, not at the goal or objective level. Thus, forms from year to year may have more or less difficult items on a particular goal or objective.

<sup>2</sup> These data are from the summer 2008 to Spring 2009 test administrations.

<sup>3</sup> The goal summary report provides valid data about curriculum implementation only when all four forms are administered within the same classroom/school/LEA, there are at least five students per form, and approximately equal numbers of students have taken each form. It is best to compare a group's weighted mean percent correct with the state weighted mean to determine how far above or below the state weighted mean the group has performed.

The Algebra II standard course of study can be found at  
<http://www.ncpublicschools.org/curriculum/mathematics/scos/2003/9-12/49a1gebra2>

Figure 10. Sample EOC goal summary report.

## Index of Terms by Label Number

- ❶ **Scale Score** - The number of test questions a student answered correctly is called a raw score. In order to equate scores across test forms within a subject area, the raw score is converted to a scale score. The scale score on the end-of-course test can be used to determine a student's academic achievement level with regard to the course content. Please note that the range of scores differs from subject to subject. Because the ranges differ, the scale score for one subject cannot be compared to the scale score of another subject.
- ❷ **Percentile Rank** - The percentile rank compares a student's performance on the test this year to that of all North Carolina students who took the test in the norming year. The norming year for a test is generally the first year the test was administered. The percentile rank shows a student performed at a level equal to or better than the stated percentage of students who took the test during the norming year. For example, if a student scores as well as or better than 87% of the students who took the test in the norming year, the student has a percentile rank of 87.
- ❸ **Achievement Level** - Achievement level shows the level at which a student performed on the test. Achievement levels are predetermined performance standards that allow a student's performance to be compared to grade-level expectations. Four achievement levels (i.e., Levels I, II, III, and IV) are reported. Achievement levels of III and IV indicate proficiency. The achievement level descriptors can be viewed at <http://www.ncpublicschools.org/accountability/testing/shared/achievelevel>.
- ❹ **Quantile or Lexile Score** - The end-of-course tests of Algebra I, Algebra II, and Geometry are linked to The Quantile Framework® for Mathematics. The end-of-course test of English I is linked to the Lexile Framework® for Reading.

**Quantile Score** - To interpret what a Quantile® score means for a student, two pieces of information are needed: the Quantile score and the grade level during which a student received the Quantile score. Typically, a higher Quantile measure within a specific grade range indicates a student probably has very few problems with grade-level material in school. A lower Quantile measure indicates that a student most likely struggles to understand and succeed with grade-level material. Once a student's Quantile measure is known, a student can be matched with resources and engaged in instruction to focus remediation and move forward with more demanding concepts and skills. Additional information on Quantile measures can be found at <http://www.Quantiles.com>. Note: This information will only appear on the individual student report for mathematics end-of-course assessments.

**Lexile Score** - The Lexile Framework® measures both reader ability and text difficulty on the same scale, the Lexile scale. Lexile scores are reported from a low of BR (Beginning Reader) to a high of 2000L. Lexile scores do not translate specifically to grade levels. Using a student's Lexile score, individuals can match a student to books or other reading materials that are similar to his or her reading ability. The lower a book's Lexile measure, the easier it will be to comprehend. For example, a text with a Lexile measure of 850L will most likely be easier for a reader to comprehend than a text at 950L. The Lexile score also allows an individual to track a student's progress over time. Additional information on Lexiles can be found at <http://www.lexile.com>, and a list of books and their Lexile measures can be found at [www.lexile.com/booksearch](http://www.lexile.com/booksearch). Note: This information will only appear on the individual student report for the end-of-course test of English I.

**5** This space is reserved for local use. The local standard status may or may not appear on the student's report. For more information related to local standards, contact the local school system.

**6 Student** - The diamond represents the student's scale score. Surrounding the student's diamond is a confidence band, indicated by a bar. The confidence band indicates the range of scores that would likely result if the same student completed similar tests many times.

**7 School** - The average school score is represented by an unshaded diamond. The average scale score for the school is based on the spring test administration for the given school year of the report. The line that passes behind the diamond represents the range of approximately two-thirds of the students within the grade of the assessment.

**8 System** - The average system score is represented by an unshaded diamond. The average scale score for the system is based on the spring test administration for the given school year of the report. The line that passes behind the diamond represents the range of approximately two-thirds of the students within the grade of the assessment.

**9 State** - The average state score is represented by an unshaded diamond. The state average is based on the scores of all North Carolina students who took the test in the norming year. The line that passes behind the diamond represents approximately the middle two-thirds of the students within the grade of the assessment.

**10 Achievement Level Description** - These paragraphs describe the level of achievement that the student is expected to have mastered given their assessment score. The achievement level descriptors can be viewed at <http://www.ncpublicschools.org/accountability/testing/shared/achievelevel/>.

**11 Subscale Scores** - The subscale score depicts achievement in a given subset of items of the exam. The state average is equal to a subscale score of 10. All subscale scores

have values between 0 and 20. The subscale scores do not reflect the number of items aligned to each goal. Use caution when interpreting subscales since the number of items is small and the reliability of these scores is low. Given the lower reliability of these subscale scores, instructional or placement decisions should not be made solely on subscale scores.

The specific EOC assessment will be listed in the second row of the header of the report.

- 13 **LEASchCode** refers to the local education agency (LEA) school code.
- 14 **HdrSchoolName** refers to the school name.
- 15 **InstrName** refers to the instructor's name.
- 16 **ClassPeriod** refers to the class period.
- 17 **TestDates** refers to the time of year in which the exam was administered.
- 18 **Number Attempted** is the number of items the examinee attempted to answer.
- 19 **Grade Method**– Letter grades on the EOC tests can be calculated in WinScan32 using either a “Percents method”, “Level III method”, “Level III with 1 SEM method”, or “Local Cutoff Method”. The “Percents Method” uses (1) an expected percentage of letter grades (either from the state results for the first year a test is given or a local percentage entered by the LEA) and (2) a frequency distribution of scores (either for the state or a local frequency distribution). This method produces four possible combinations using state and local letter grade percents and frequency distributions

The “Level III method” and the “Level III with 1 SEM method” use the “Percents Method” to determine the “A-B” and “B-C” letter grade cut points using the state percentage of letter grades and state frequency distribution of scores. However, the “C-D” cut point is set at the lowest level III (Level III method) or one standard error of measurement below the lowest level III cut point (Level III with 1 SEM method). The “D” letter grade is all the remaining scores at level II below this “C-D” cut point. The “F” letter grade is all of level I. LEAs can establish their own cut scores for grades using the “Local Cutoff Method”. Often, an LEA using this method wants a higher standard than other methods.

- 20 **Passing Score** - For the local promotion standard, the LEAs have the option of using (1) the lowest scale score at level III or (2) the lowest scale score at level III minus one standard error of measurement (SEM). If 148 is the lowest level III and 3 is the SEM, then the passing scores are 148 and 145 for option 1 and 2 respectively.

- 21 Grade** refers to the letter grade (A B C D F) on an EOC exam that WinScan32 calculates using one of the grade methods.
- 22 Score 100-pt** –LEAs are required by State Board policy to use the EOC exam results as at least 25 percent of the final grade. To help teachers use these scores, WinScan32 has the functionality to convert the scale scores to a score on a 100-point scale. Step 1 is to set the letter grade cut points (A-B, B-C, etc.) on the possible scale score range. Next, each score range is converted to the 100-point score range (typically 93-100 = A, 85-92 = B, 77-84 = C, 70-76 = D and 0-69 = F). If the A letter grade range is determined to be 140 to 160, then 140 is converted to 93 on the 100-point scale and 160 = 100. The scores between 140 and 160 are interpolated into equal intervals and rounded to the nearest whole number.
- 23** This indicates the administration instance- Regular Administration (Reg) or Retest 1(R 1). According to State Board of Education policy, students that score at Level II on the Regular administration of an EOC exam are to be retested.
- 24 Highest Score** refers to the higher of two scores shown in the regular and retest score columns.
- 25 Group Means** is the average of a group of scores. The mean is the sum of all scores in the roster divided by the number of scores in the roster.
- 26 Group Standard Deviation** – The standard deviation indicates the degree of variation of scores among a group of students. The larger the standard deviation, the greater the variation there is in scores. The standard deviation is the square root of the variance of the scores.
- 27 Group Mode** is the most common score or scores of the group.
- 28 Local Percentile** –The local percentiles table presents the scale scores associated with the 10th, 25th, 50th, 75th, and 90th percentiles of students selected for inclusion in a particular WinScan32 report. Local percentiles depend on which sub-set of students are selected for inclusion in a given report. In contrast, the percentile rank reported on an Individual Student Report or class roster report was computed using students who took the test in the norming year. When computing local percentiles it is often necessary to interpolate scale scores since small samples often do not contain scale scores at each of the five percentiles. There are many different methods to interpolate such values. Each method will produce slightly different results; however, as sample sizes increase, differences among interpolation methods diminish. WinScan32 uses a method

to calculate scale scores associated with a percentile that is very similar to the *empirical distribution function with averaging* implemented in Proc Univariate in SAS software.

**29 Frequency** - The Frequency column presents the number of students that earned each score.

**30 Cumulative Frequency** – The value in the Cumulative Frequency column in a frequency table is the total number of students that scored at or below the particular score.

**31 Percent** - The Percent of Total column presents the percent of students that earned a given score (number of students that earned the score divided by total number of observations).

**32 Cumulative Percent** - The value in the Cumulative Percent column in a frequency table is the percent of students that scored at or below the score/achievement level.

**33 Number of Observations** is the number of students who earned valid scores included in this report.

**34 Percent of the Items per Form** is the percent of items that align with each content goal.

**35 Weighted Mean Percent Correct** –A weighted mean is used to calculate the mean scores from different forms. If the count of students differs across forms, a weighted mean adjusts for the different counts across the forms. For instance, if twice as many students took one form as compared to another, this form would receive twice the weighting in calculating the mean. Usually about the same numbers of students take each form; therefore, in practice the weighted mean is very similar to an un-weighted mean.

**36 Difference from 2008 State Mean Percent Correct** – This difference displays performance relative to the 2008 state mean percent correct. Negative values indicate a score performance below the state mean percent correct, while positive values indicate performance better than the state mean.