

## **The Grade 9 Assessment of Mathematics, 2001-2002**

### ***Excerpts from the Ontario Provincial Report on Achievement, 2001-2002 (January 2003): Report of Provincial Results, pages 4-8***

All Grade 9 students who are enrolled in an applied or academic mathematics course are expected to participate in the Grade 9 Assessment of Mathematics. In 2001-2002, the assessment was administered during the period January 9-22, 2002, to students in first-semester mathematics courses and from May 27-June 13, 2002, to student in second-semester and full-year courses. Principals had the option of administering the assessment over three or five days.

The Grade 9 Assessment of Mathematics measures how well students have met the provincial expectations in *The Ontario Curriculum, Grades 9 and 10: Mathematics*. The assessment is based on the expectations of the Grade 9 curriculum for applied and academic mathematics courses. An accommodation policy is in place to support students with special needs and students who require special provisions due to a lack of proficiency in English.

Students in locally developed courses do not take part in this assessment. Locally developed courses are developed within school boards to meet educational needs that are not met by courses outlined in the provincial curriculum policy documents.

### **Applied and Academic Courses**

In Grades 9 and 10, students choose between two types of courses: applied and academic. EQAO develops separate versions of the assessment for students in applied and academic courses. Since some of the expectations for applied and academic courses overlap, approximately 40% of the assessment items are common to both the applied and academic versions.

### **Semestered and Full-Year Schools**

Schools have the option of offering semestered courses or courses over the full year. EQAO develops separate versions for administration in January and May/June.

### **Content of the Assessment**

The assessment provides information on students' knowledge and skills within the four strands of mathematics: number sense and algebra; relationships; analytic geometry; measurement and geometry. The four mathematics categories outlined in the curriculum and evaluated by the assessments are as follows: knowledge and understanding; application; thinking, inquiry and problem solving; communication.

The assessment included a multiple-choice component, a short-answer component and performance-based tasks.

### ***Multiple-choice component***

Students were asked to complete 24 questions during a 30-minute period. Each multiple-choice question was related to a single strand and a single category.

### ***Short-Answer Component***

Students were asked to complete 10 items during a 30-minute period. Each short-answer item was related to a single strand and a single category.

### ***Performance-Based Tasks***

Students were asked to complete a total of six tasks. Each task was a collection of related questions based on one or two strands from the curriculum. Each task was scored for achievement across all four categories and the strands related to the task.

### ***Additional Component***

Students completed an additional 30-minute component that was scored but did not count toward their results. This component included items that were used to establish comparability between the assessments administered in January and May/June and between 2000-2001 and 2001-2002 assessments. It also included items that were being pilot-tested or field-tested for future use.

### **Marking and Reporting**

Teachers trained in marking scored the short-answer and performance-based items, using a scoring scale that had three to six possible codes for each item. The multiple-choice items were machine-scored. The multiple-choice scores were combined with the short-answer and performance-based scores to produce category, strand and overall scores. With the aid of a statistical procedure that took into account the degree of difficulty of each test item and the input of the markers, the category, strand and overall scores were then mapped onto EQAO's reporting scale.

EQAO reports on student achievement using a four-level scale: "Level 1", "Level 2", "Level 3" and "Level 4". Students may also be designated "Exempt", "No data", "Not enough information to score (NEIS)" and "Below Level 1".

**Exempt or No Data:** These designations include students who were formally exempted from participation in one or more components of the assessment and students from whom EQAO did not receive completed assessment booklets.

**Not Enough Information to Score (NEIS):** This designation represents student work that could not be scored, because large sections were missing or illegible.

**Below Level 1:** Below Level 1 identifies insufficient achievement of the curriculum expectations.

**Level 1:** Level 1 identifies a passable level of achievement. Achievement is below the provincial standard.

Level 2: Level 2 identifies a moderate level of achievement. Achievement is below but approaching the provincial standard.

Level 3: Level 3 identifies a high level of achievement. Achievement is at the provincial standard.

Level 4: Level 4 identifies a very high to outstanding level of achievement. Achievement is above the provincial standard.

Achievement results are reported in two ways – Method 1 and Method 2.

#### *Method 1*

In Method 1, all data are reported. Method 1 expresses the number of students achieving at each level as a percentage of all the students in the grade, including students who scored below Level 1, those who produced insufficient information to score, those who produced no data and those who were exempted. Method 1 is EQAO's primary method of reporting, because publicly funded schools are accountable for the achievement and progress of all students. Schools and school boards are required to use this method to ensure consistency of reporting across the province.

#### *Method 2*

Method 2 is an alternate way of presenting the data. Method 2 expresses the distribution of student results as a percentage of those students who actually took part in the assessment and produced some work. Method 2 highlights the results achieved by students who have at least some scorable work.

### **Student Questionnaire Data**

During both the January 2002 and the May/June 2002 administration, students of both applied and academic courses were asked to complete detailed anonymous questionnaires. EQAO tabulates student questionnaire data for the province as a whole and by school and school board. The questionnaire data should be referred to when interpreting achievement results.