

EQAO IIR Reports Grade 9 Mathematics

A Guide for Administrators



EQAO Report Title

(Grade, Level of Study, Date of Administration)

Education Quality and Accountability Office		Grade 9 Assessment of Mathematics, 2011–2012											
EQAO		Item Information Report: Student Roster* – Applied Course, Winter A											
		School: [REDACTED]											
		Board: Avon Maitland DSB (66010)											
Strand ¹		Detailed Question Information											
Item Number ²		<ul style="list-style-type: none">• Strand											
Item Type ³		<ul style="list-style-type: none">• Question Number											
Overall Expectation**		<ul style="list-style-type: none">• Multiple Choice or Open Response											
Skill **		<ul style="list-style-type: none">• Curriculum Expectation Addressed											
Highest Score Code Possible/ Correct MC Response		<ul style="list-style-type: none">• Skill											
Student Name (Ontario Education Number) Package ID		<ul style="list-style-type: none">• Scoring Information											
		Summary of School, Board, and Provincial Results by question											

Grade 9 Assessment of Mathematics, 2011-2012

Item Information Report: Student Roster* - Applied Course, Winter 2012

School:

Board: Avon Maitland DSB (66010)

		Number Sense and Algebra							Released Items						
Strand ¹									Lit						
Item Number ²		1	2	3	4	5	7	8	10	11	12	14			
Item Type ³		MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	M		
Overall Expectation**									L1						
Skill ¹¹									L1.1						
Highest Score: Code Possible/ Correct MC Response															
Student Name (Ontario Education Number) Package ID															
		+	+	+	+	d	+	20	a	+	+	a	+		
		+	+	+	+	d	c	20	a	+	+	a	+		
		+	+	+	+	d	c	30	+	c	c	c	+		
		+	+	c	+	a	+	10	c	+	+	+	+		
		b	b	+	+	+	+	10	b	+	c	+	+		
		a	a	+	+	+	+	40	c	+	b	c	c		
		+	+	+	+	+	+	10	a	+	b	+	c		
		+	+	+	+	+	+	10	+	+	b	+	+		
		+	+	+	+	+	+	10	b	+	b	+	+		
		+	+	+	+	+	+	10	+	+	b	a	+		
		a	+	+	+	d	d	10	+	+	+	+	+		
		+	d	+	+	+	c	30	a	+	+	c	+		
Summary Results***															
School		65	39	83	61	35	35	43	43	91	35	57	36		
Board		76	51	66	54	40	34	51	52	86	44	51	50		
Province: All Students		73	49	59	52	44	33	47	52	82	49	50	45		
Province: Students at Level 3 or Above		89	65	77	69	61	42	64	72	91	67	67	61		

Student Names and OENs

Student Multiple Choice Response
(+ indicates a correct response; letters a, b, c, or d indicate the incorrect student response; Z indicates no response)

Overall Level of Achievement

Released Items	Overall Achievement Level ¹⁵					
	MC	OR	OR	MC	OR	OR
LRV04	LRV03	LRV04	NGV01	NGV02	TH	TH
KU	AP	TH	TH	AP	TH	TH
c	40	40	d	a	40	40
+	40	40	+	b	40	3
+	20	40	+	+	10	3
+	30	10	+	b	40	3
+	20	40	+	+	40	3
+	30	40	c	b	10	2
a	20	40	+	+	10	2
+	20	40	+	b	10	2
+	10	40	+	+	10	1
+	10	40	+	+	30	3
Number of Participating Students Included in the Summary Results ¹¹¹						
78	42	82	70	57	64	23
81	46	73	75	51	68	201
77	42	68	67	53	64	18502
91	59	76	80	70	84	8503

Open Response Score
(highest possible score is 40)

Item Information Report (IIR)

What this report shows:

This report provides a complete record of responses and scores for each question for all students who participated in the assessment. It also includes each student's overall achievement level as reported on the Individual Student Report.

The "Summary Results" at the bottom of the report show the percentage of students in the school, board and province who answered each multiple-choice item correctly. The Open Response results are calculated differently. For these questions, the summary shows the average percentage of total points students received for each open-response item.

The purpose of this report:

The report is designed to deepen educators' understanding about how students performed on the EQAO assessments. By examining variations in student performance by item, educators will see which items were challenging for students in their school or board, and which items were answered at a consistently high level. This information can help schools and boards in the school improvement planning process to focus their efforts to improve instruction and better serve the needs of all students.

Education Quality and Accountability Office EQAO		Grade 9 Assessment of Mathematics, 2011–2012 Item Information Report: Student Roster – Applied Course, Winter Assessment																							
School:		Aven Mallard DSB (66010)																							
Board: Aven Mallard DSB (66010)		Released Items																							
Strand ¹		Number Sense and Algebra												Linear Relations										MC	
Item Number ¹		1	2	3	4	5	7	8	10	11	12	14	15	16	17	18	21	24							
Item Type ¹		MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC						
Overall Expectation ²		NU/21	NU/21	NU/21	NU/21	NU/21	NU/21	NU/21	RV/21	RV/21	RV/21	RV/21	RV/21	RV/21	RV/21	RV/21	RV/21	RV/21	RV/21						
Skill ³		KU	TH	TH	AP	KU	AP	TH	AP	KU	AP	AP	AP	KU	TH	TH	AP	AP	AP						
Highest Score Code Possible/ Correct MC Response		c	c	d	a	c	b	40	d	a	d	b	d	c	c	d	40	b							
Student Name (Ontario Education Number) Package ID		Student Response/Score C																							
			+	+	+	+	d	+	20	a	+	+	a	+	a	+	+	40	+						
			+	+	+	+	d	c	20	a	+	+	a	+	a	+	+	30	+						
			+	+	+	+	d	c	30	+	c	c	c	+	+	+	c	40	+						
			+	+	c	+	a	+	10	c	+	+	+	+	+	+	+	40	+						
			b	b	+	+	+	+	10	b	+	c	+	b	a	d	a	40	d						
			a	a	+	+	d	a	40	c	+	b	c	c	a	b	a	40	d						
			d	b	+	c	+	a	10	a	+	b	+	c	a	b	c	20	+						
			a	a	a	b	d	c	2	+	+	b	+	b	d	b	b	30	d						
			a	a	+	+	+	+	10	b	+	b	+	b	a	d	+	40	+						
			a	a	+	+	+	a	10	+	+	b	a	+	b	b	a	40	+						
			a	+	+	+	d	d	10	+	+	+	+	b	a	d	c	10	+						
			+	d	+	+	+	c	30	a	+	+	c	+	+	d	+	40	+						
Summary Results ⁴																									
School		65	39	83	61	35	35	43	43	91	35	57	39	26	26	57	75	74							
Board		76	51	68	54	40	34	51	52	86	44	51	50	40	31	57	74	78							
Province: All Students		73	49	59	52	44	33	47	52	82	49	50	45	42	29	55	66	60							
Province: Students at Level 3 or Above		69	65	77	69	61	42	64	72	91	67	67	61	60	39	73	66	54							

Detailed Question Information – Grade 9 Applied Mathematics

Released Items/Unreleased Items

- EQAO only releases publicly some of the questions used on the assessment. All questions are scored.

Strand

- The strand shows the broad curriculum area or strand that is assessed (e.g. NS & A = Number Sense and Algebra, LR = Linear Relations, M & G = Measurement and Geometry).

Item Number

- Question number in each section

Item Type

- Questions are either Multiple Choice (MC) or Open Response (OR).

Overall Expectations

- Refer to pages 15–31 of the *Framework: Grade 9 Assessment of Mathematics* for a list of the overall expectations (e.g. NAV.01 Solve problems involving proportional reasoning).

Skill

- The categories of knowledge and skills are described as follows: KU = Knowledge and Understanding; AP = Application; TH = Thinking.

Highest Score Code Possible/Correct MC Response

- The highest possible score for Open Response is 40. The other possible scores are b, l, 10, 20, and 30.
- The correct response to each Multiple Choice question is provided.

	Released											Unreleased Items									Overall Achievement Level ¹⁵
Strand ¹	Number Sense and Algebra											LR					M & G				
Item Number ²	1	2	3	4	5	7	8	10	11	12		39	42	43	45	46	47	48	49		
Item Type ³	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC		MC	MC	MC	OR	OR	MC	MC	OR		
Overall Expectation**	NAV.01	NAV.01	NAV.01	NAV.01	NAV.02	NAV.02	NAV.01	LRV.01	LRV.02	LRV.02	L	LRV.02	LRV.04	LRV.04	LRV.03	LRV.04	MGV.01	MGV.03	MGV.02		
Skill ¹⁷	KU	TH	TH	AP	KU	AP	TH	AP	KU	AP		AP	TH	KU	AP	TH	TH	AP	TH		
Highest Score Code Possible/ Correct MC Response	c	c	d	a	c	b	40	d	a	d		a	c	c	40	40	d	a	40		

Detailed Question Information – Grade 9 Academic Mathematics

Released Items/Unreleased Items

- EQAO only releases publicly some of the questions used on the assessment. All questions are scored.

Strand

- The strand shows the broad curriculum area or strand that is assessed (e.g. NS & A = Number Sense and Algebra, LR = Linear Relations, AG = Analytic Geometry, M & G = Measurement and Geometry).

Item Number

- Question number in each section

Item Type

- Questions are either Multiple Choice (MC) or Open Response (OR).

Overall Expectations

- Refer to pages 15–31 of the *Framework: Grade 9 Assessment of Mathematics* for a list of the overall expectations (e.g. NAV.01 Solve problems involving proportional reasoning).

Skill

- The categories of knowledge and skills are described as follows: KU = Knowledge and Understanding; AP = Application; TH = Thinking.

Highest Score Code Possible/Correct MC Response

- The highest possible score for Open Response is 40. The other possible scores are b, I, 10, 20, and 30.
- The correct response to each Multiple Choice question is provided.

	Released Items											Overall Achievement Level ¹⁵
Strand ¹	Number Sense and Algebra					Linear Relations						
Item Number ²	1	3	4	5	6	7	8	9	11	14	15	
Item Type ³	MC	MC	MC	MC	OR	MC	MC	MC	MC	OR	MC	
Overall Expectation ⁴	NAV.01	NAV.02	NAV.02	NAV.02	NAV.02	LRV.01	LRV.02	LRV.02	LRV.03	LRV.03	AGV.01	
Skill ¹¹	KU	AP	KU	TH	AP	TH	TH	AP	KU	TH	I	
Highest Score Code Possible/ Correct MC Response	d	d	a	b	40	c	b	a	d	40	c	

Unreleased Items									Overall Achievement Level ¹⁵
LR			AG			M & G			
35	36	38	41	43	44	47	50		
MC	MC	OR	MC	MC	OR	MC	OR		
LRV.02	LRV.03	LRV.02	AGV.02	AGV.03	AGV.02	MGV.03	MGV.03		
KU	AP	AP	AP	AP	AP	KU	TH		
d	a	40	b	b	40	c	40		

Summary Results : All Levels of Study

Strand ¹	Released Items																
	Number Sense and Algebra								Linear Relations								
Item Number ¹	1	2	3	4	5	6	7	8	10	11	12	14	15	16	17		
Item Type ¹	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	MC		
Overall Expectation ²	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Skill ³	KU	TH	TH	AP	KU	AP	TH	AP	KU	AP	AP	KU	TH	TH			
Highest Score Code Possible/ Correct MC Response	c	c	d	a	c	b	90	d	a	d	b	d	c	c			
Student Name (Ontario Education Number) Package ID	Student																
	+	+	+	+	d	+	10	a	+	+	a	+	a	+			
	+	+	+	+	d	c	10	a	+	+	a	+	a	+			
	+	+	+	+	d	n	10	+	+	c							
	a	+	+	+	d	d	10	+	+	+	+	b	a	d			
	+	d	+	+	+	c	10	a	+	+	c	+	+	d			
Summary Results***																	
School	65	39	83	61	35	35	43	43	91	35	57	39	26	26			
Board	76	51	66	54	40	34	51	52	86	44	51	50	40	31			
Province All Students	79	49	59	52	44	33	47	52	82	49	50	45	42	28			

Summary Results for the School, Board, and Province: All Students

For Multiple Choice (MC) items, the Summary Results indicate the percentage of students who answered correctly.

For Open Response (OR) items, the Summary Results indicates the average percentage of total points students received for the item.
e.g. if the maximum score is 40, and the average (mean) score for a class of students was 20, the Summary Result for that item expressed as a percentage would be 50.

Summary Results for Province : Students at Level 3 or Above

This summary is calculated in the manner indicated above, but using only students whose Overall Score achieved or surpassed the Provincial standard.

Using Results for School Improvement Planning

Summary Results for the School, Board, and Province: All Students

An analysis of results in Mathematics for both Applied and Academic levels of study should be completed by the school team. The discussions that take place during this time will provide valuable insight into student learning. The summary results are used to determine which areas of the assessment were **challenging for students**, as well as to highlight **areas of strength**. In the highlighted examples, there were significant differences in how students in this school performed when compared to the Board and Province.

Summary Results ^{**}							
School	67	67	78	58	65	39	67
Board	69	80	73	61	70	49	67
Province: All Students	68	80	75	60	73	50	70
Province: Students at Level 3 or Above	81	92	84	68	82	59	87

To determine why students in this school had difficulty with this question, the school team may consider questions such as:

Did many students respond with the same incorrect answer?
Which expectation was this question addressing?
What was the format of the question? Did the question have multiple steps?
Is this an area that students struggled with during classroom instruction?

This analysis, in combination with other assessment information, may be used for improvement planning and targeting specific areas of need for the students who participated in the assessment. The information can be used to drive instruction in the intermediate division as well as in future grade 9 math classes.

Overall Expectation^{**}

NAV.01 | NAV.01 | NAV.01 | NAV.01 | NAV.02 | NAV.02

+	b	a	c	b	+
b	+	d	d	a	+
+	c	d	c	d	+
c	+	d	d	+	+
c	+	d	c	a	+
+	d	d	c	+	b
+	c	d	d	a	d
c	d	d	+	+	+
+	+	d	+	+	d
+	d	+	+	+	+

5 Consider the following equation:

$$c^2 = 6^2 + 10^2$$

Which is closest to the value of c ?

- a 4
- b 6
- c 12
- d 16