

Secondary Math Pilot - Fall 2009  
Assessment Information

Course	Unit Name & Type of Assessment	Length of Pilot (50 minute periods)		Instructional Time spent on Assessment Topics (50 minute periods)	
		DISC	HOLT	DISC	HOLT
IMT3	Growing, Growing, Growing (exponential models) Quiz on Pilot Material	18	16	11	9
IAG1	Linear Models Modified Unit Assessment	21	20	13	11
HIAG2	Linear Systems Unit Assessment	6	6	6	6
HIAG2	Power Models (quadratic functions & equations) Modified Unit Assessment	20	21	12	17
HIAT3	Shapes and Geometric Reasoning (triangles, quadrilaterals & proof) Unit Assessment	22	22	22	22

Notes:

The materials were assessed using the same questions over content that was common to both programs. Most of the items came from district unit tests. In a few cases, where the approach taken by our current curriculum differed substantially from the pilot materials, we wrote or revised items. The vocabulary and mathematical symbols used matched what students encountered in the pilot materials.

# Exponential Models Pilot Exam Summary

Fall 2009 N = 488

**Replacement Unit:** Connected Mathematics 2 (CMP2) Growing, Growing, Growing Unit

**Topic:** Exponential Models

**Course:** Integrated Mathematics Topics 3 (IMT3)

**Level:** 8<sup>th</sup> grade

**Holt Algebra 1 Assessment Data:** Chinook Middle, Robinswood Middle, Highland Middle

**Discovering Algebra Assessment Data:** International, Tyee, Odle Middle

## Test Averages by School

IMT3 Exponential Models Pilot Fall 2009	IS Disc	TyMS Disc	OMS Disc	CMS Holt	RMS Holt
Page 1: Exponent Rules and Notation Total score possible: 10	6.6	8.9	7.2	7.3	4.5
Average Percent for Page 1	66%	89%	72%	73%	45%
Page 2: Exponential Growth and Decay Total score possible: 10	8.9	8.8	7.7	8.1	5.8
Average Percent for Page 2	89%	88%	77%	81%	58%

## Test Averages by Program

IMT3 Exponential Models Pilot Fall 2009	Discovering Average of School Averages	Holt Average of School Averages	Discovering Average by Total BSD	Holt Average by Total BSD
Page 1: Exponent Rules and Notation Total score possible: 10	7.6	5.9	8.3	7
Average Percent for Page 1	76%	59%	83%	70%
Page 2: Exponential Growth and Decay Total score possible: 10	8.5	6.9	8.5	7.8
Average Percent for Page 2	85%	69%	85%	78%

### Test Averages by Ethnicity

IMT3 Pilot Fall 2009		Page 1 Procedural Fluency		Page 2 Problem Solving	
		Discovering	Holt	Discovering	Holt
Asian	n = 149	8.8	8.0	9.0	8.5
Black	n = 10	5.2		5.7	
Hispanic	n = 20	8.1	5.1	7.8	6.5
Native American	n = 2	7.5		6.5	
Multi Ethnic	n = 43	8.0	7.3	8.3	7.9
White	n = 250	8.1	6.8	8.4	7.7
<b>Overall</b>		<b>8.3</b>	<b>7.0</b>	<b>8.5</b>	<b>7.8</b>

### Test Averages by Curriculum Type

IMT3 Pilot Fall 2009		Page 1 Procedural Fluency		Page 2 Problem Solving	
		Discovering	Holt	Discovering	Holt
ESL	n = 5		8.6		9.4
Regular Ed	n = 444	8.3	6.9	8.6	7.8
Special Ed	n = 20	6.6	6.2	6.8	7.0
<b>Overall</b>		<b>8.3</b>	<b>7.0</b>	<b>8.5</b>	<b>7.8</b>

### Test Averages by Gender

IMT3 Pilot Fall 2009		Page 1 Procedural Fluency		Page 2 Problem Solving	
		Discovering	Holt	Discovering	Holt
Female	n = 213	8.5	7.8	8.8	8.4
Male	n = 264	8.1	6.3	8.3	7.2
<b>Overall</b>		<b>8.3</b>	<b>7.0</b>	<b>8.5</b>	<b>7.8</b>

## Linear Models Pilot Exam Summary

Fall 2009 N = 126

**Replacement Unit:** Core Plus Book 1 Linear Models Unit

**Topic:** Linear Equations and Functions

**Course:** Integrated Algebra Geometry 1 (IAG1)

**Level:** 9<sup>th</sup> – 11<sup>th</sup> grade (below grade level)

**Holt Algebra 1 Assessment Data:** Sammamish High & Interlake High

**Discovering Algebra Assessment Data:** Bellevue High and Sammamish High

IAG1 Linear Models Pilot Fall 2009	SHS Discovering	BHS Discovering	IHS Holt	SHS Holt
Page 1: Procedural Fluency Questions Total score possible: 14	9.4	8.7	6.9	10.0
Average Percent for Page 1	67%	62%	49%	71%
Page 2: Problem Solving Questions Total score possible: 14	7.0	8.7	6.0	8.6
Average Percent for Page 2	50%	62%	43%	61%

IAG1 Linear Models Pilot Fall 2009	Discovering Average of School Averages	Holt Average of School Averages	Discovering Average by Total BSD	Holt Average by Total BSD
Page 1: Procedural Fluency Questions Total score possible: 14	9.0	8.4	9.0	8.0
Average Percent for Page 1	64%	60%	64%	57%
Page 2: Problem Solving Questions Total score possible: 14	7.9	7.3	7.9	6.9
Average Percent for Page 2	56%	52%	57%	50%

IAG1 Pilot Fall 2009 ETHNICITY	Page 1 Procedural Fluency		Page 2 Problem Solving	
	Discovering	Holt	Discovering	Holt
Asian n = 18	9.3	6.6	8.4	6.9
Black n = 14	6.4	7.2	6.4	5.0
Hispanic n = 39	9.1	7.3	5.8	6.4
Multi-Ethnic n = 13	7.3	8.7	8.6	6.5
White n = 79	9.7	8.6	8.7	7.6
<b>Grand Total</b>	<b>9.0</b>	<b>8.0</b>	<b>7.9</b>	<b>6.9</b>

IAG1 Pilot Fall 2009 CURRICULUM TYPE	Page 1 Procedural Fluency		Page 2 Problem Solving	
	Discovering	Holt	Discovering	Holt
ESL n = 36	7.3	7.7	5.8	6.3
Regular Ed n = 79	10.0	7.5	8.3	6.8
Special Ed n = 44	8.7	9.5	8.8	7.8
<b>Grand Total</b>	<b>9.0</b>	<b>7.9</b>	<b>8.0</b>	<b>6.8</b>

IAG1 Pilot Fall 2009 GENDER	Page 1 Procedural Fluency		Page 2 Problem Solving	
	Discovering	Holt	Discovering	Holt
Female n = 77	9.2	7.5	8.2	6.4
Male n = 95	8.9	8.5	7.8	7.5
<b>Grand Total</b>	<b>9.0</b>	<b>8.0</b>	<b>7.9</b>	<b>6.9</b>

# Linear Systems Pilot Exam Summary

Fall 2009 N = 932

**Replacement Unit:** Core Plus Book 2 Linear Systems Unit

**Topic:** Systems of Linear Equations

**Course:** Honors Integrated Algebra Geometry 2 (HIAG2)

**Level:** 9<sup>th</sup> grade

**Holt Algebra 1 Assessment Data:** Newport, Bellevue, Sammamish, Interlake, Robinswood, Tyee, Odle

**Discovering Algebra Assessment Data:** Newport, Bellevue, Sammamish, Highland

HIAG 2 Linear Systems Pilot Fall 2009	NHS-H	SHS-H	BHS-H	IHS-H	RHS-H	TyMS-H	OMS-H
Linear Systems Pilot Exam Total Points Possible: 18	13.9	13.7	14.2	12.9	13.2	16.6	16.8
Percent of Averages	77%	76%	79%	71%	73%	92%	94%

HIAG 2 Linear Systems Pilot Fall 2009	NHS-D	SHS-D	BHS-D	HMS-D
Linear Systems Pilot Exam Total Points Possible: 18	14.7	12.9	15.2	16.5
Percent of Averages	82%	72%	84%	91%

HIAG 2 Linear Systems Pilot Fall 2009	Discovering Average of School Averages	Holt Average of School Averages	Discovering Average by Total BSD	Holt Average by Total BSD
Linear Systems Pilot Exam Total Points Possible: 18	14.8	14.5	14.6	14.1
Percent of Averages	82%	80%	81%	78%

HIAG 2 LS Pilot Fall 2009		Discovering	Holt
ETHNICITY		Exam Average	Exam Average
Asian	n = 249	15.9	15.5
Black	n = 37	13.4	11.0
Hispanic	n = 75	12.4	12.2
Native American	n = 3		11.0
Multi-Ethnic	n = 85	14.5	13.7
White	n = 483	14.4	13.8
<b>Grand Total</b>		<b>14.6</b>	<b>14.1</b>

HIAG 2 LS Pilot Fall 2009		Discovering	Holt
CURRICULUM TYPE		Exam Average	Exam Average
ESL	n = 39	13.6	11.2
Regular Ed	n = 792	15.0	14.3
Special Ed	n = 71	12.1	10.6
<b>Grand Total</b>		<b>14.6</b>	<b>14.0</b>

HIAG 2 LS Pilot Fall 2009		Discovering	Holt
GENDER		Exam Average	Exam Average
Female	n = 445	14.7	14.8
Male	n = 487	14.6	13.4
<b>Grand Total</b>		<b>14.6</b>	<b>14.1</b>

## Power Models Pilot Exam Summary

Fall 2009 N = 867

Replacement Unit: Core Plus Book 2 Power Models Unit

Topic: Quadratic Equations and Functions

Course: Honors Integrated Algebra Geometry 2 (HIAG2)

Level: 9<sup>th</sup> grade

Holt Algebra 1 Assessment Data: Newport, Bellevue, Sammamish, Robinswood, Highland

Discovering Algebra Assessment Data: Newport, Interlake, Sammamish, Tyee, Odle

IAG2 Power Models Pilot Fall 2009	NHS-H	SHS-H	BHS-H	HMS-H
Page 2: Conceptual Questions Total Points Possible: 10	7.0	6.9	8.0	8.4
Percent of Averages for Page 2	70%	69%	80%	84%
Page 3: Problem Solving Questions Total Points Possible: 11	7.4	5.8	8.6	9.3
Percent of Averages for Page 3	67%	53%	79%	85%
Page 4: Procedural Fluency Questions Total Points Possible: 15	9.8	8.9	11.4	8.8
Percent of Averages for Page 4	65%	59%	76%	58%

HIAG2 Power Models Pilot Fall 2009	NHS-D	SHS-D	TyMS-D	OMS-D	IHS-D
Page 2: Conceptual Questions Total Points Possible: 10	5.5	3.3	8.0	8.4	4.7
Percent of Averages for Page 2	55%	33%	80%	84%	47%
Page 3: Problem Solving Questions Total Points Possible: 11	6.5	4.8	10.1	9.8	7.0
Percent of Averages for Page 3	59%	44%	92%	89%	63%
Page 4: Procedural Fluency Questions Total Points Possible: 15	5.2	5.8	11.8	10.6	5.7
Percent of Averages for Page 4	35%	38%	79%	71%	38%

HIAG2 Power Models Pilot Fall 2009	Discovering Average of School Averages	Holt Average of School Averages	Discovering Average by Total BSD	Holt Average by Total BSD
Page 2: Conceptual Questions Total Points Possible: 10	6.0	7.6	5.5	7.4
Percent of Averages for Page 2	60%	76%	55%	74%
Page 3: Problem Solving Questions Total Points Possible: 11	7.6	7.8	7.2	7.6
Percent of Averages for Page 3	69%	71%	65%	69%
Page 4: Procedural Fluency Questions Total Points Possible: 15	7.8	9.7	6.7	10.1
Percent of Averages for Page 4	52%	65%	45%	67%

HIAG 2 PM Pilot Fall 2009		Page 2 Conceptual Understanding		Page 3 Problem Solving		Page 4 Procedural Fluency	
		Disc	Holt	Disc	Holt	Disc	Holt
ETHNICITY							
Asian	n = 245	6.7	8.2	8.3	8.1	9.0	12.0
Black	n = 33	4.2	5.9	6.0	5.3	4.2	9.1
Hispanic	n = 66	4.3	5.8	6.1	5.1	5.4	8.0
Native American	n = 3	1.7		3.7		2.0	
Multi-Ethnic	n = 81	5.1	7.1	6.6	8.0	6.0	8.6
White	n = 439	5.1	7.4	6.8	7.8	5.5	9.9
<b>Grand Total</b>		<b>5.5</b>	<b>7.4</b>	<b>7.2</b>	<b>7.6</b>	<b>6.7</b>	<b>10.1</b>

HIAG 2 PM Pilot Fall 2009		Page 2 Conceptual Understanding		Page 3 Problem Solving		Page 4 Procedural Fluency	
		Disc	Holt	Disc	Holt	Disc	Holt
CURRICULUM TYPE							
ESL	n = 38	2.6	6.7	3.1	5.5	5.4	10.6
Regular Ed	n = 722	5.7	7.7	7.4	7.9	7.0	10.4
Special Ed	n = 60	2.9	5.6	4.2	6.4	3.1	7.3
<b>Grand Total</b>		<b>5.5</b>	<b>7.4</b>	<b>7.1</b>	<b>7.6</b>	<b>6.7</b>	<b>10.1</b>

HIAG 2 PM Pilot Fall 2009		Page 2 Conceptual Understanding		Page 3 Problem Solving		Page 4 Procedural Fluency	
		Disc	Holt	Disc	Holt	Disc	Holt
GENDER							
Female	n = 416	5.6	7.4	7.1	7.3	6.9	10.5
Male	n = 451	5.4	7.4	7.2	7.9	6.4	9.8
<b>Grand Total</b>		<b>5.5</b>	<b>7.4</b>	<b>7.2</b>	<b>7.6</b>	<b>6.7</b>	<b>10.1</b>

## Geometry Pilot Exam Summary

Fall 2009 N = 950

**Replacement Unit:** Core Plus Book 3 Shapes & Geometric Reasoning Unit

**Topic:** Triangle Congruence and Quadrilateral Properties

**Course:** Honors Integrated Algebra Trigonometry 3 (HIAT3)

**Level:** 10<sup>th</sup> grade

**Holt Algebra 1 Assessment Data:** Newport, Bellevue, Sammamish, Interlake, Robinswood, International

**Discovering Algebra Assessment Data:** Newport, Bellevue, Sammamish, Interlake

HIAT3 Geometry Pilot Fall 2009	NHS-H	BHS-H	SHS-H	IHS-H	RHS-H	IS-H
Pages 2-5: Conceptual Total Points Possible: 33	28.0	27.1	23.1	26.4	25.5	28.9
Percent of Averages for Pgs 2-5	85%	82%	70%	80%	77%	88%
Page 6: Proofs	10.9	10.9	7.9	9.9	7.0	11.2
Percent of Averages for Page 6	78%	78%	56%	71%	50%	80%

HIAT3 Geometry Pilot Fall 2009	NHS-D	BHS-D	SHS-D	IHS-D
Pages 2-5: Conceptual Total Points Possible: 33	28.4	27.9	26.7	25.6
Percent of Averages for Pgs 2-5	86%	85%	81%	78%
Page 6: Proofs	10.9	11.6	9.6	8.6
Percent of Averages for Page 6	78%	83%	68%	61%

HIAT3 Geometry Pilot Fall 2009	Discovering Average of School Averages	Holt Average of School Averages	Discovering Average by Total BSD	Holt Average by Total BSD
Pages 2-5: Conceptual Total Points Possible: 33	27.1	26.5	27.3	27.0
Percent of Averages for Pgs 2-5	82%	80%	83%	82%
Page 6: Proofs	10.2	9.6	10.3	10.3
Percent of Averages for Page 6	73%	69%	74%	74%

HIAT 3 Geometry Pilot Fall 2009		Pages 2 – 5 Conceptual Understanding		Page 6 Proof	
		Discovering	Holt	Discovering	Holt
Asian	n = 279	28.4	27.8	10.8	11.0
Black	n = 20	24.1	23.4	8.5	8.8
Hispanic	n = 47	23.3	24.2	7.4	8.5
Native American	n = 4	20.0	22.0	5.7	9.0
Multi-Ethnic	n = 77	28.0	28.4	11.1	10.4
White	n = 524	27.3	26.7	10.3	10.1
<b>Grand Total</b>		<b>27.3</b>	<b>27.0</b>	<b>10.3</b>	<b>10.3</b>

HIAT 3 Geometry Pilot Fall 2009		Pages 2 – 5 Conceptual Understanding		Page 6 Proof	
		Discovering	Holt	Discovering	Holt
ESL	n = 47	25.4	25.5	9.2	10.2
Regular Ed	n = 833	27.5	27.3	10.4	10.4
Special Ed	n = 45	25.1	23.3	7.5	7.5
<b>Grand Total</b>		<b>27.3</b>	<b>27.0</b>	<b>10.2</b>	<b>10.3</b>

HIAT 3 Geometry Pilot Fall 2009		Pages 2 – 5 Conceptual Understanding		Page 6 Proof	
		Discovering	Holt	Discovering	Holt
Female	n = 467	27.4	26.7	10.3	10.4
Male	n = 484	27.3	27.3	10.2	10.3
<b>Grand Total</b>		<b>27.3</b>	<b>27.0</b>	<b>10.3</b>	<b>10.3</b>