

# Presentation to the Iowa Assessment Task Force

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September 17, 2014



# House File 215



Approved on June 3, 2013

*b.* A set of core academic indicators in mathematics and reading in grades four, eight, and eleven, a set of core academic indicators in science in grades eight and eleven, and another set of core indicators that includes but is not limited to graduation rate, postsecondary education, and successful employment in Iowa.

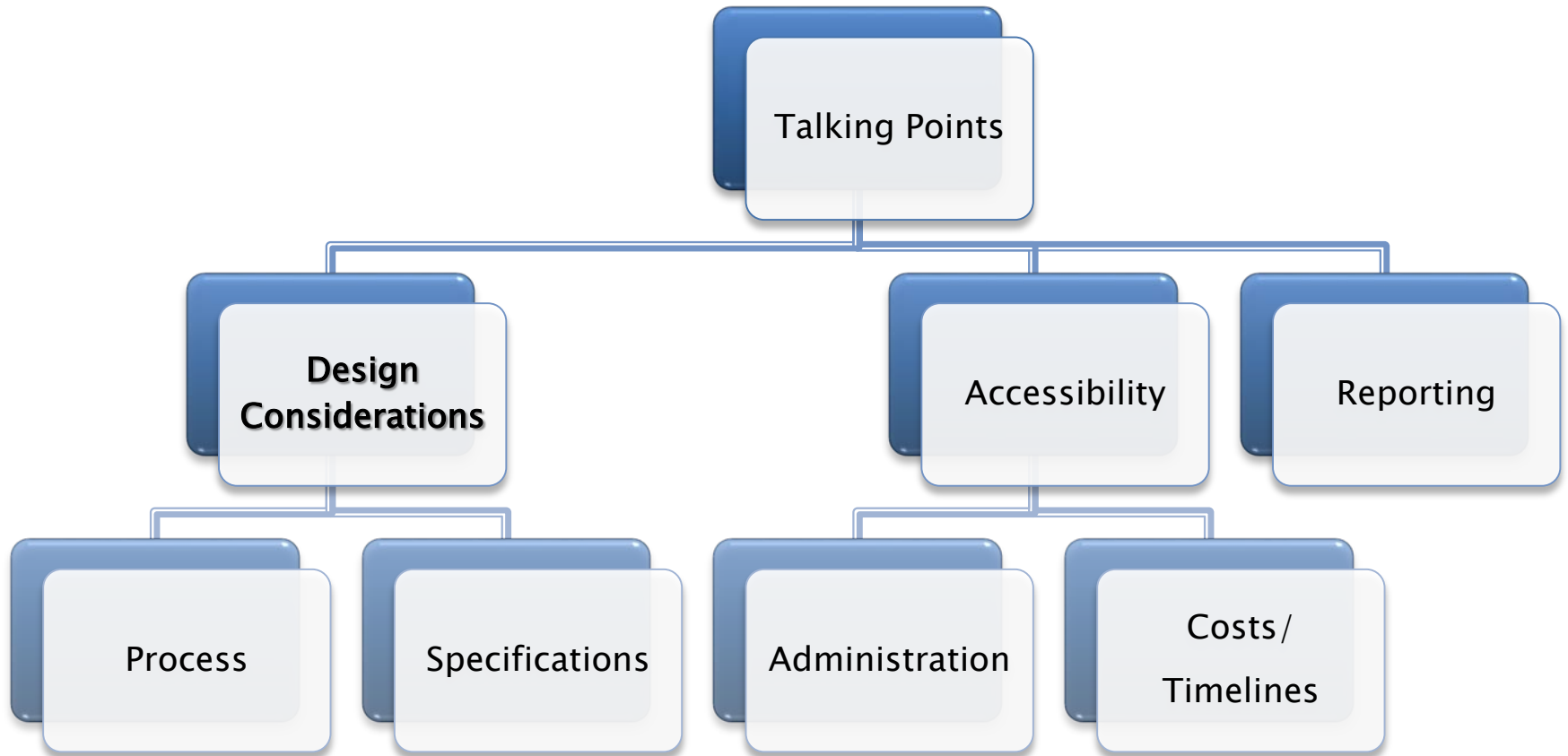
(2) Notwithstanding subparagraph (1), for the school year beginning July 1, 2016, and each succeeding school year, the rules shall provide that all students enrolled in school districts in grades three through eleven shall be administered an assessment during the last quarter of the school year that at a minimum assesses the indicators identified in this paragraph "b"; is aligned with the Iowa common core standards in both content and rigor; accurately describes student achievement and growth for purposes of the school, the school district, and state accountability systems; and provides valid, reliable, and fair measures of student progress toward college or career readiness.

# State of Iowa Requirements

## House File 215

- ▶ Reading in grades 4, 8, and 11
- ▶ Mathematics in grades 4, 8 and 11
- ▶ Science in grades 8 and 11
- ▶ Aligned with the Iowa Core in content and rigor
- ▶ Valid, reliable and fair
- ▶ Accurately describes growth and achievement
- ▶ Measures college and career readiness

# Next Generation Iowa Assessments



# Process

- ▶ Universal design principles
- ▶ Content reviews
- ▶ Alignment review
- ▶ Sensitivity reviews
  - Specifications
  - Passages/Stimulus Materials
  - Items
  - Forms
- ▶ Pilot, field and beta testing
- ▶ Standard setting

# Alignment to Iowa Core

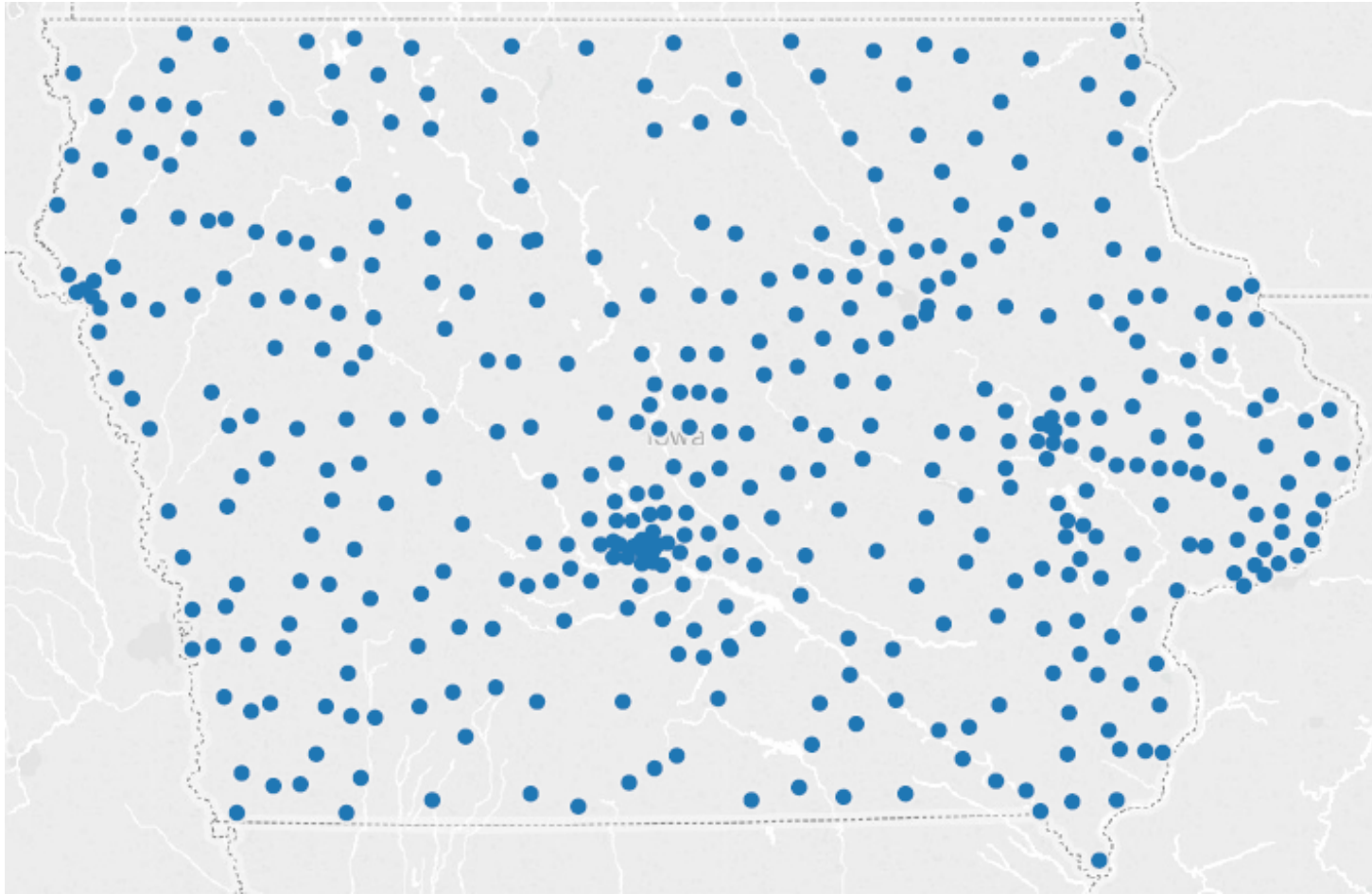


Educational  
standards define  
the domain of  
content for the  
*NGIA*

# Alignment Process

- Creation of test specifications that define the content areas and cognitive processes to be measured by the *NGIA*
- Development of test materials (items and scoring rubrics) by Iowa educators that measure critical aspects of the Iowa Core, initial alignment at item writing
- Alignment of individual items to the Iowa Core by review panel (7 to 10 individuals) at standards, DOK and domain levels
- Post test assembly review of these alignments at the form level

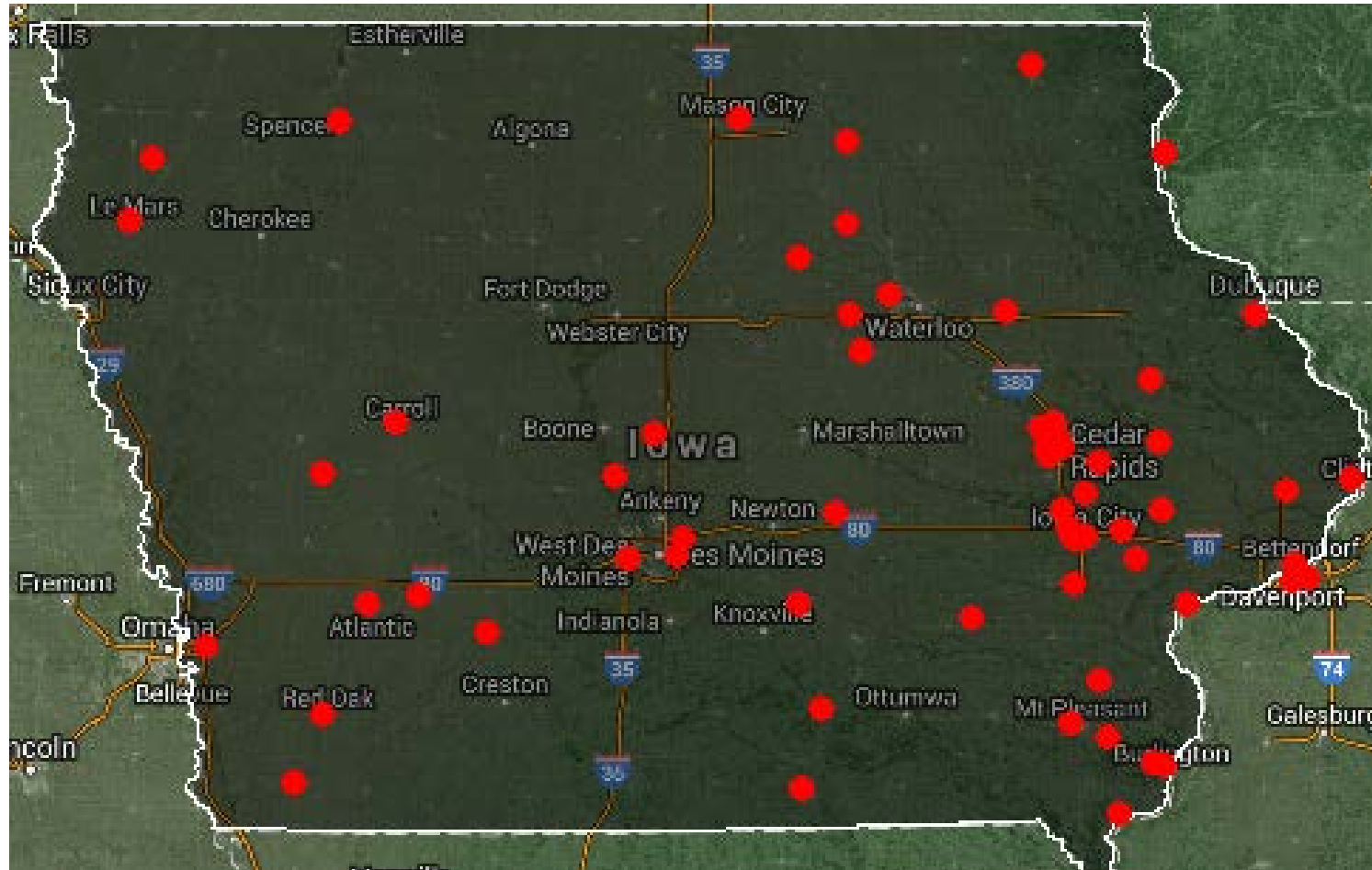
# Iowa Student Participation



- Students in all Iowa districts invited to participate from 2011–2014
- Ongoing field testing through 2015
- Beta test of *NGIA* Program in 2016



# Involvement of Iowa Educators in *NGIA* Development



Over 600  
Iowa  
educators

- Item writing
- Item review
- Item alignment
- Scoring student responses

# Guidelines for Specifications

- ELA

- Balance of text types (informational and literary)
- Appropriate levels of text complexity (quantitative and qualitative indicators)
- Use evidence from texts
- Assess a range of cognitive demands (DOK 1–3)

- Mathematics

- Focus on content required for next levels
- Connecting practice to content
- Balance of concepts, applications and procedures
- Assess a range of cognitive demands (DOK 1–3)

# Item Types

- Variety of item types
  - Constructed–response
  - Technology–enhanced
  - Extended–response
  - Selected–response
- Complement of item types to enhance coverage of the Iowa Core while maintaining necessary technical characteristics

# ELA Specifications

Number of Items for <i>NGIA</i> ELA/Literacy Assessment by Item Type									
Test	ELA/Literacy Domains	Item Type	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	HS
Reading	Integration of Knowledge and Ideas	SR	6-8	6-8	6-8	7-9	7-9	7-9	6-8
		CR	1-3	1-3	1-3	1-3	1-3	1-3	1-3
		TE	1-3	1-3	1-3	1-3	1-3	1-3	1-3
	Craft and Structure	SR	10-12	10-12	10-12	11-13	11-13	11-13	10-12
		CR	1-3	1-3	1-3	1-3	1-3	1-3	1-3
		TE	1-2	1-2	1-2	1-2	1-2	1-2	1-2
	Key Ideas and Details	SR	12-14	12-14	12-14	13-15	13-15	13-15	13-15
		CR	1-3	1-3	1-3	1-3	1-3	1-3	1-3
		TE	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Language	Conventions of Standard English / Knowledge of Language	SR	20-24	20-24	22-26	22-26	24-28	24-28	28-32
		TE	3-5	3-5	5-7	5-7	6-8	6-8	6-8
	Vocabulary Acquisition and Usage	SR	10-12	10-12	10-12	11-13	11-13	12-14	14-16
		TE	2-3	2-3	2-3	2-3	2-3	3-4	3-4
Writing		ER	1	1	1	1	1	1	1
DOK	Level 1 (%)		30	30	30	30	30	30	30
	Level 2 (%)		40	40	40	40	40	40	40
	Level 3 (%)		30	30	30	30	30	30	30

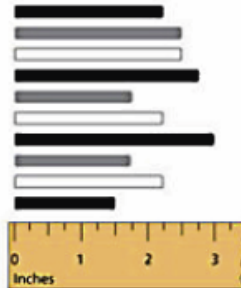
# Math Specifications

Number of Items for <i>NGIA</i> Mathematics Assessment by Item Type								
Math Domains	Item Type	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	HS
Operations and Algebraic Thinking	SR	6-8	7-9	8-10				TBD
	CR	1-2	1-2	1-2				
	TE	1-2	1-2	0-1				
Number and Operations in Base Ten	SR	6-8	7-9	8-10				
	CR	1-2	1-2	1-2				
	TE	1-2	1-2	1-2				
Number and Operations – Fractions	SR	6-8	7-9	8-10				
	CR	1-2	1-2	1-2				
	TE	1-2	1-2	1-2				
Measurement and Data	SR	6-8	7-9	8-10				
	CR	1-2	1-2	1-2				
	TE	1-2	1-2	1-2				
Geometry	SR	6-8	7-9	8-10	9-11	10-12	11-13	TBD
	CR	1-2	1-2	1-2	1-2	1-2	1-2	
	TE	1-2	1-2	1-2	1-2	1-2	1-2	
Ratios and Proportional Relationships	SR				9-11	10-12		
	CR				1-2	1-2		
	TE				1-2	1-2		
The Number System (Number and Quantity)	SR				9-11	10-12	11-13	TBD
	CR				1-2	1-2	1-2	
	TE				1-2	1-2	1-2	
Expressions and Equations	SR				9-11	10-12	11-13	TBD
	CR				1-2	1-2	1-2	
	TE				1-2	1-2	1-2	
Statistics and Probability	SR				9-11	10-12	11-13	TBD
	CR				1-2	1-2	1-2	
	TE				1-2	1-2	1-2	
Functions	SR						11-13	TBD
	CR						1-2	
	TE						1-2	
DOK Level 1 (%)		30	30	30	30	30	30	30
DOK Level 2 (%)		40	40	40	40	40	40	40
DOK Level 3 (%)		30	30	30	30	30	30	30

**Iowa Core Alignment:** Domain: Measurement and Data; 4.MD: Represent and interpret data.  
**Depth of Knowledge:** 2

Make a line plot to display measurements in fractions of a unit.

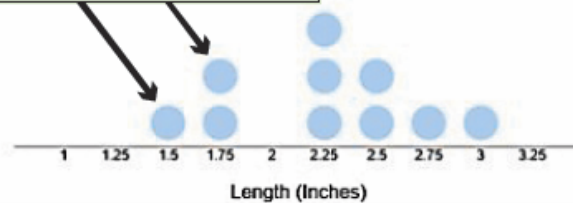
Measure the lengths of the bars in the diagram below using the ruler .



Students are required to generate data.

Construct the line plot that summarizes the lengths of the measurements.

- Dragging tool facilitates quick construction of the line plot
- TE format makes it easier and less frustrating for students to create legible graphs
- Automated scoring is cost efficient
- Partial credit scoring is possible

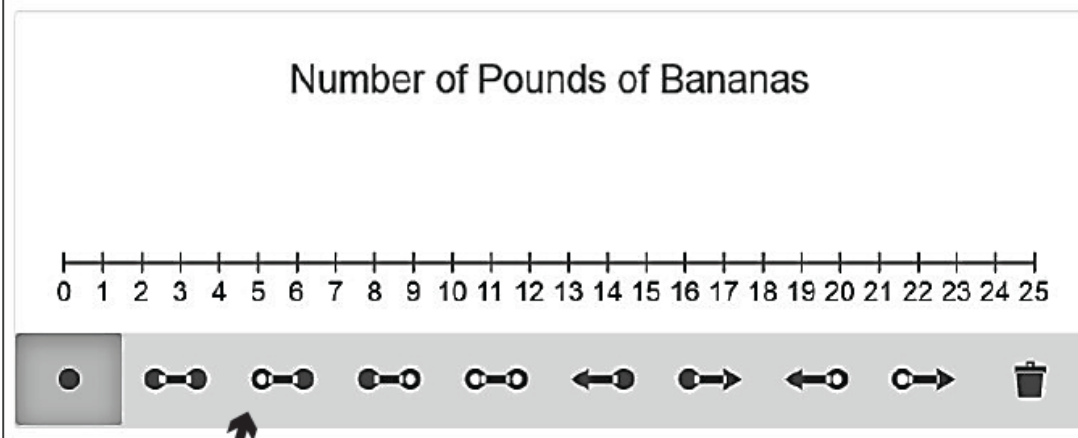


**Iowa Core Alignment:** Domain: Expression and Equations; 6.EE: Reason about and solve one-variable equations and inequalities.

**Depth of Knowledge:** 2

**Represent solutions of inequalities on number line diagrams.**

Mr. Anders is buying bananas for the school picnic. He has \$9.50 to spend. Bananas cost \$0.50 per pound. Draw the graph that represents all possible values for the number of pounds of bananas that Mr. Anders can afford to buy.



- Students select the appropriate line symbol
- Drag, drop, and move functionality
- The position of the line and its endpoints can be moved after dropping

**User-friendly format and functionality engages students, and reduces test anxiety.**

**Iowa Core Alignment:** Domain: Expressions and Equations; 7.EE: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

**Depth of Knowledge:** 3

The original price of a shirt was \$30. The store now has it on sale for 40% off. Clara has a coupon for 25% off all sale prices. **In the box below, write an equation to show the percent of the original price ( $p$ ) that Clara will pay for the shirt before tax.**

**Students must synthesize information and generate an equation.**



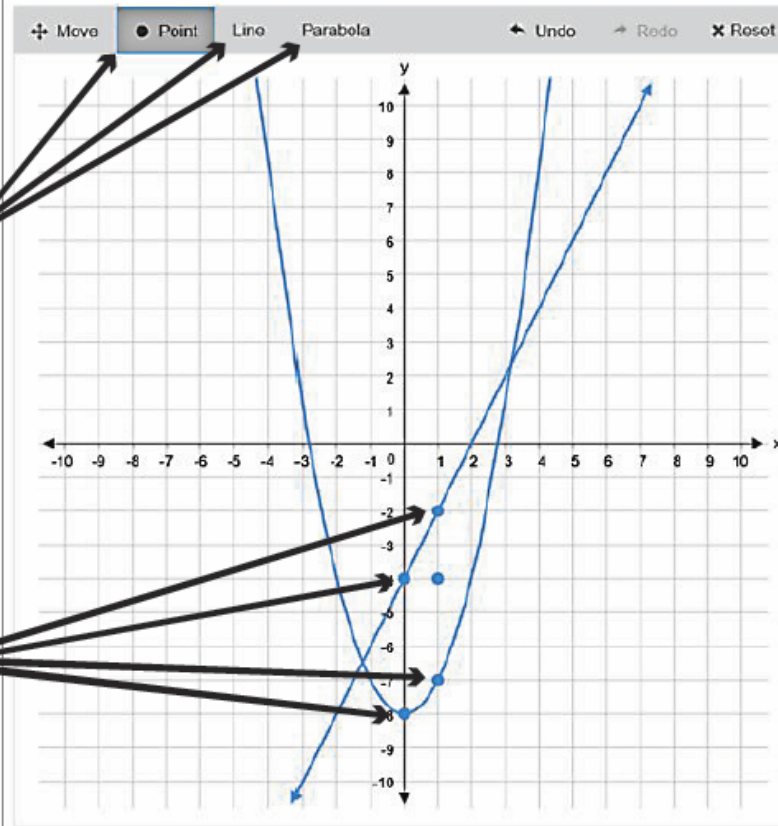
**Iowa Core Alignment:** Domain: High School — Algebra; Reasoning with Equations and Inequalities; HSA.REI: Represent and solve equations and inequalities graphically.

**Depth of Knowledge:** 2

Consider the system of inequalities  $y \leq 2x - 4$  and  $y \geq x^2 - 8$ .

On the grid below, plot:

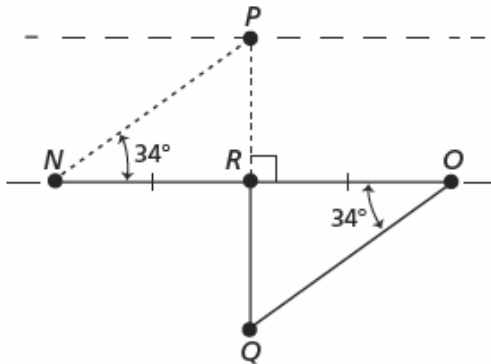
1. the graphs used to solve the system, and
2. a point which represents one possible solution to the system.



**Iowa Core Alignment:** Domain: High School — Geometry; Congruence; HSG.CO: Understand congruence in terms of rigid motion.

**Depth of Knowledge:** 3

A hiker wants to estimate the distance across a deep ravine ( $\overline{PR}$ ). To do so, the hiker measures  $\overline{NO}$  and marks  $R$  as its midpoint. The hiker also estimates  $\angle N$  to a point that is directly across the ravine from point  $R$  and marks the same angle from  $\angle O$ .



Why does measuring  $\overline{RQ}$  provide an estimate for the distance across the ravine? Write the answer in the box below.

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Students must explain how the criteria for triangle congruence can be used to solve real-world problems.

- 1 Why does measuring  $\overline{RQ}$  provide an estimate for the distance across the ravine? Write the answer in the box below.

$\overline{RQ} = \overline{PR}$ . This is due to me knowing that  $\overline{NR} = \overline{RO}$  and  $\angle N = \angle R$ . Also I know that  $\overline{PQ} \perp \overline{NO}$ . That then makes  $\overline{OQ} = \overline{NP}$  and  $\angle Q = \angle P$  making the triangles similar triangles.

Because  $\overline{NR} \cong \overline{RO}$  +  $\angle O \cong \angle N$  +  $\angle ORQ \cong \angle NRP$   
so ASA allows you to prove they are congruent  
triangles so  $\overline{PR} \cong \overline{RA}$ .

**Iowa Core Alignment: Text Types and Purposes 2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.**

**Depth of Knowledge: 3**

**Reread the passage that excerpts Catherine Schubert’s diary of her Overlander journey. Write an essay in which you explain how the journey across country in 1862 differs from a trip someone might take across country today. Be sure to use details, examples, and quotes from the passage and from your own experience and knowledge to support your explanation. When you have finished writing, review your essay to check for correct spelling, punctuation, and grammar.**


**Students complete a piece of extended writing, drawing evidence from text they have read.**

**Iowa Core Alignment:** Key Ideas and Details 1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

**Depth of Knowledge:** 1

Put these events from Catherine's diary in order. Sort them by dragging so the earliest event is on the top and the last event is on the bottom.

- ≡ Catherine gives birth to Rose.
- ≡ Catherine leaves Fort Garry.
- ≡ Catherine loses a tooth.
- ≡ Catherine travels by raft



**Students drag and drop answer options to reorder events as they occurred.**

**The Language test assesses student understanding of Conventions of Standard English, Usage, and Vocabulary.**

**Answers are viewed in context, increasing task authenticity.**

**Directions:** Click on each box in the story below to see a list of answer options, then select the best option as your answer.

Last year my mom got a great new job, and my family moved from Illinois to Ohio.

Before we left,  my brother and I packed everything from our closet and dresser into big boxes. On moving day, a big  truck pulled up in front of our building.

When the truck was full and our apartment was empty, we piled into our car and drove to Ohio.

Finally we arrived at our beautiful new apartment in a neighborhood filled with trees.

Because the truck with all our furniture and belongings hadn't come yet, the first night we slept

in sleeping bags on the floor. Once my brother had his clothes and his sports equipment put away, he


announced, "This feels like home!" ▼  
announced "This feels like home!"  
announced this feels like home!  
announced, This feels like home!  
announced, "This feels like home!"

**Students select from a drop-down menu of possible answers.**

**Iowa Core Alignment:** Key Ideas and Details 1: Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

**Depth of Knowledge:** 2

**The passage suggests that adobe buildings are suited for the unique American Southwest natural environment. Describe this southwest natural environment, providing at least three specific descriptive details from the passage.**



**Constructed-response items require students to analyze text and cite evidence from passages to support their answers.**

**Detail 1:** \_\_\_\_\_

**Detail 2:** \_\_\_\_\_

**Detail 3:** \_\_\_\_\_

**Iowa Core Alignment:** Research to Build and Present Knowledge 7: Conduct short research projects to answer a question drawing on several sources . . .

**Depth of Knowledge:** 3

Lately, there has been frequent debate about electronic books (e-books) versus traditional print books and people are asking a lot of questions—Are e-books just a fad? Will e-books replace print books? Which kind of book is better? Following this page are several articles pulled from different sources that provide information about electronic and print books. Read and study the articles and figures provided, thinking about the benefits and drawbacks of each kind of book format. Then, write an essay explaining which kind of book format you think is better.

**Think carefully about what reasons will help others understand your point of view. Be sure to use facts, details, examples, and quotes from the articles to support your position. Drawing on all the resources available to you, write the best essay you can to explain your choice of traditional print book or e-book as the better format for books.**



**Students read several related articles that form the basis of evidence-based extended writing tasks.**



## **Article 1      Top 5 Reasons Why Print Books are Preferable to Electronic Books**

1. **Print books are always available** – Conditions are never too hot or too cold to read a print book, though electronic technology like e-readers can stop working in some conditions. Plus, there are no batteries in a print book to run down.
2. **You can write in print books** – Margin notes and underlining/highlighting help readers identify important parts to return to easily, whether for personal reference, to share with a friend, or to study for a test.
3. **The print book is yours** – You can keep it forever, loan it to a friend, or resell it when you finish

## **Article 2      e-books are the Answer**

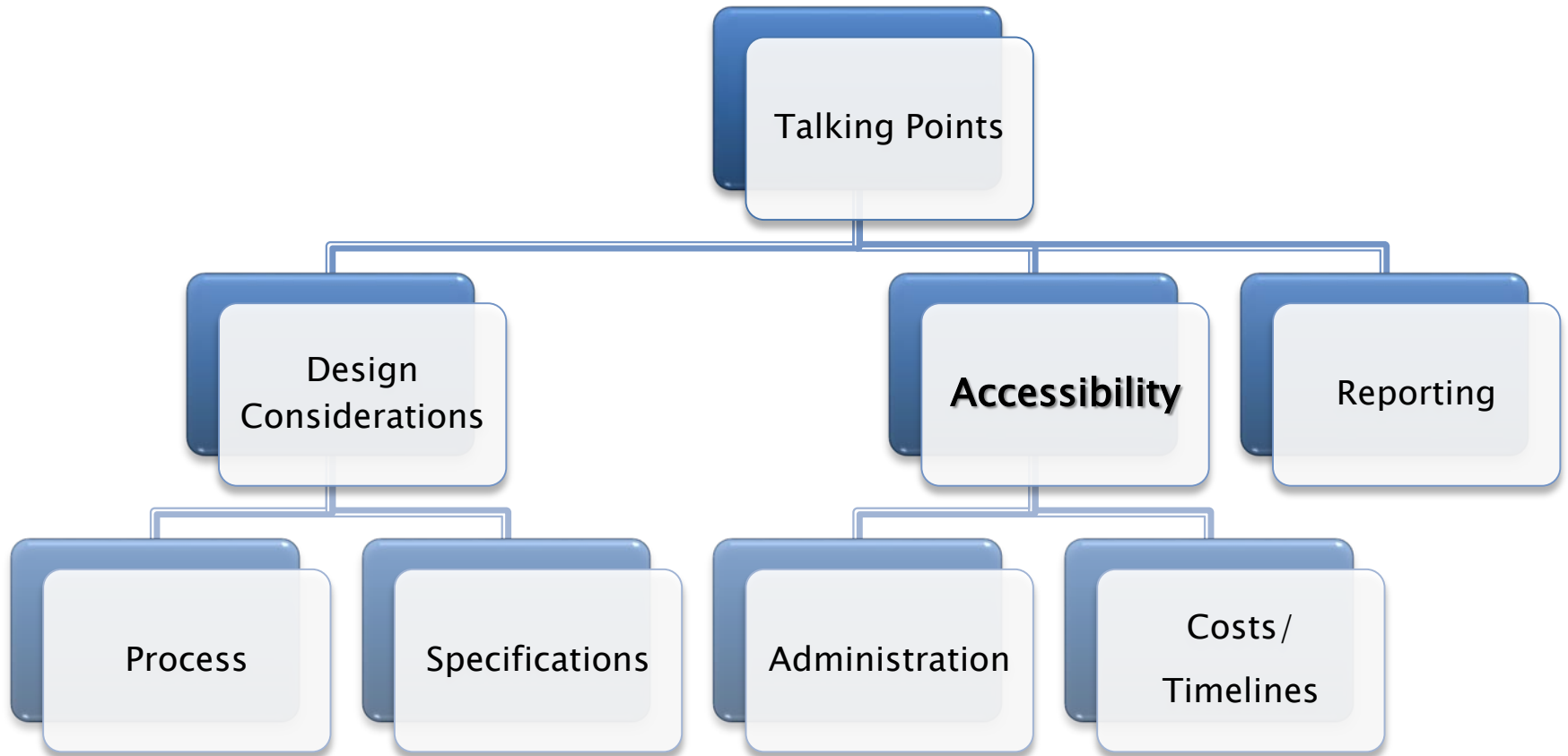
If you are interested in convenience, electronic books (e-books) are just what you need. Buying new titles happens at a click of a button and your new purchases download right to the same e-reader, tablet, or computer you ordered them on. Book shopping can be completed in less than five minutes and can be done 24 hours a day, every day. This means that practically at any time and in any place you can have the book you want almost immediately. But the convenience doesn't stop there. Storing books is even easier than buying them—they stay on your electronic

## **Article 3      New Bill to Help Cut College Costs**

In 2014, Senators Dick Durbin from Illinois and Al Franken from Minnesota proposed the Affordable College Textbook Act, a bill designed to expand use of “open textbooks” at colleges and universities. Open textbooks refers to electronic textbooks made available online for the public to use for free. The senators perceived a need for open textbooks after learning of the high cost of college textbooks, which can be \$1,000-\$1,500 per year on top of

**Students read several related articles that form the basis of evidence-based extended writing tasks.**

# Next Generation Iowa Assessments



# Administration Options



- Online and paper/pencil
- Local decisions to administer one or both depending upon technology and timelines
- Comparability studies

# Online Accommodations

Examples of Available Accommodations	
Zoom Text	The student enlarges and enhances what is displayed on the screen.
Color Contrast	The student may change the onscreen background and/or font color based on need or preference.
Answer Masking	The student may use the answer masking to cover answer options to support memory and focus, eliminating distractions.
Graphics Descriptions	Read aloud descriptions of graphics.
Line Readers	Visual tracking tool for reading.
Text-to-Speech/TTS	Text is read aloud using TTS technology. The student maintains control over speed and volume.

# Paper/Pencil Accommodations

Examples of Acceptable Accommodations	
Braille	Refresher Braille
Large Print	Manipulatives
Scribes	Calculators
Read-aloud (including text-to-speech)	Reinforcement and behavioral modification
Extended time	Interpreters for students with hearing impairments
Assistive Technology: amplification equipment; noise buffers; magnifying devices; non-calibrated rule or template; communication boards or devices; talking calculators; speech-to-text software or devices; audio file; auditory trainer, electronic dictionaries; signing avatar, screen readers	

# Costs

- Costs to State
  - Direct (Administration and Scoring)
- Costs assumed by ITP
  - Design and content development
- Influences on costs
  - Model Based
  - Online versus paper/pencil
  - Customizable Iowa Core (unique)

# NGIA Administration Models for Consideration

	Model 1	Model 2	Model 3	Model 4
Administration mode	Paper/pencil	Online	Paper/pencil	Online
Testing items	Secure	Secure	Partial release	Partial release
Scoring	<b>Centrally scored Trained readers</b>	Automated scoring engine (ASE) for all items that can be validly accommodated by this approach  <b>Centrally scored with trained readers for those that cannot be validly scored by ASE</b>	Combination of central and local scoring (building, district, AEA)  Professional development opportunities for teachers  Scoring materials provided to teachers	Automated scoring engine (ASE) for all items that can be validly accommodated by this approach  Combination of central and local scoring (building, district, AEA)  Professional development opportunities for teachers  Scoring materials provided to teachers
Types of Report	Reports provided by ITP	Immediate online reports for ASE items; reports provided by ITP for all other items	Reports provided by ITP	Immediate online reports for ASE items, reports provided by ITP for all other items
Information Provided	All scores Students do not receive papers	All scores Students do not retain responses	All scores Student receives paper with diagnostic feedback	All scores Student receives paper with diagnostic feedback
Turnaround time	2 to 3 weeks	2 to 3 weeks	As determined by district	As determined by district

# Timelines

Assessment validated  
for multiple purposes

*Ongoing*

Beta test

*2016*

Reporting technologies

*2013–2016*

New item types

*2013–2016*

Online capabilities

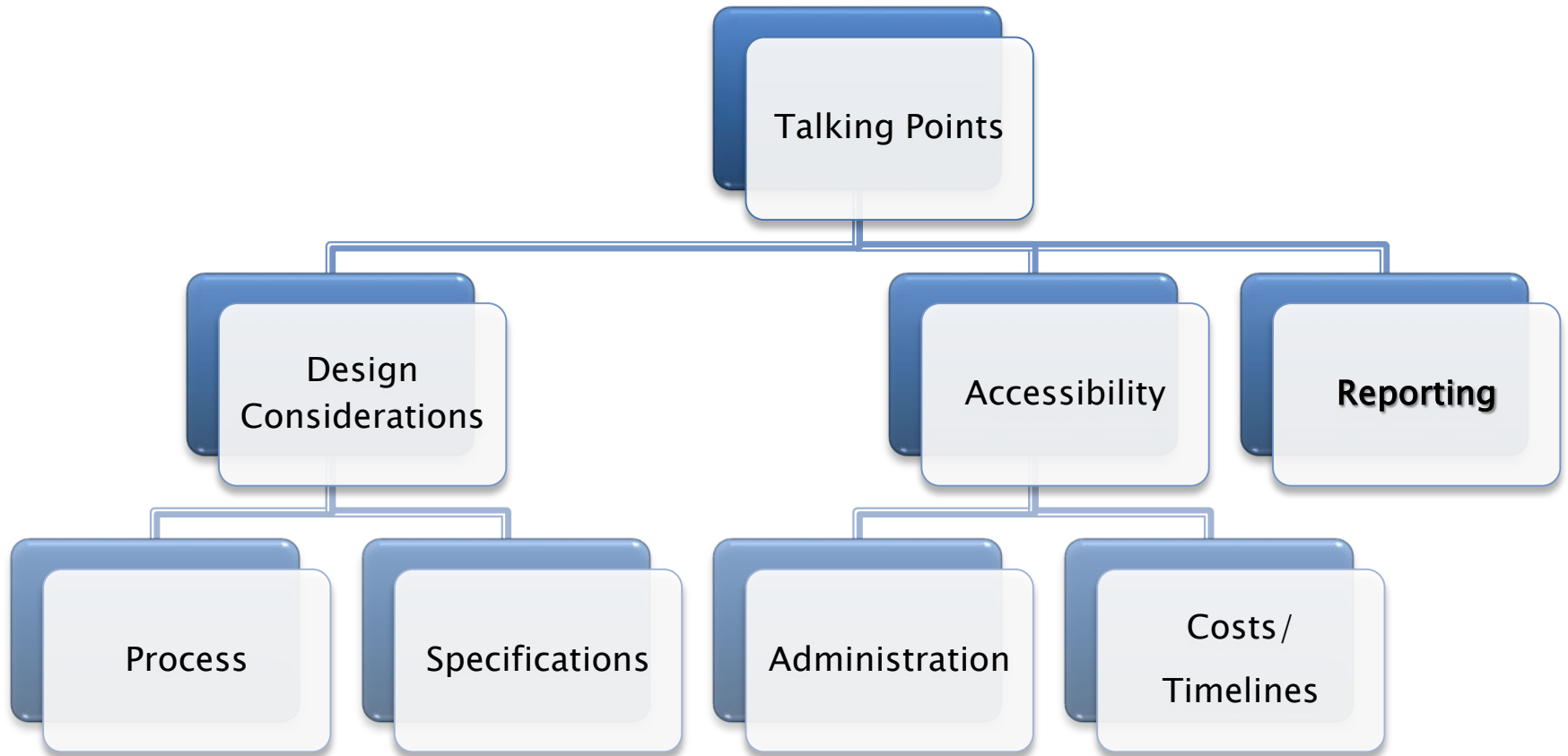
*2012–2016*

New development

*2011–2015*



# Next Generation Iowa Assessments



# Next Generation Iowa Assessments Reports

- ✓ Guided by desire to inform instruction
  - Aligned to the Iowa Core
  - Emphasis on accessible and accurate reporting
- ✓ Guided by the quality of the information provided to users
  - Emphasis on measuring and evaluating growth
  - Emphasis on college and career readiness
  - Structured to meet federal accountability reporting requirements
- ✓ Supported with professional development opportunities
- ✓ Responsive to Iowa's needs

# Research Studies to Validate Interpretations and Uses

- Providing reliable and valid scores at the total test, domain, DOK and claim levels
- Measuring progress and tracking growth with a vertically scaled assessment
- Predicting college readiness
- Monitoring gaps on constructed–response and technology–enhanced items
- Supporting valid interpretations through report and data management

# Performance Summary for Tyler Petrie

Iowa Core Summative

Test Date: 5/1/2015

Grade: 7

Class: Jennifer Jacoby

Building: Monroe Middle School

System: Golden Oaks CSD

State: IA



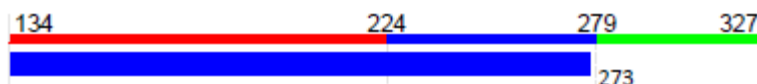
## Interpretive Guidance

The information on this report summarizes Tyler's proficiency on the Iowa Core Summative Assessment for Mathematics.

- A total score is reported for Mathematics.
- Domain-level scores are reported for more specific content based on standards in the Iowa Core.

## Mathematics Proficiency Level

Standard Score (SS) Graph



Proficiency Level: Proficient based on the Iowa Performance

Standards Standard Score (SS): 273

## Mathematics College Readiness Indicator

Standard Score (SS) Graph

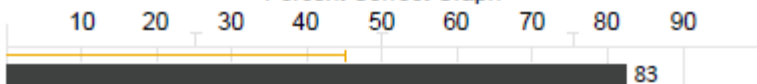


College Readiness Indicator: On Track for College Readiness!

## Mathematics Domain Scores

### Ratios and Proportional Relationships

Percent Correct Graph



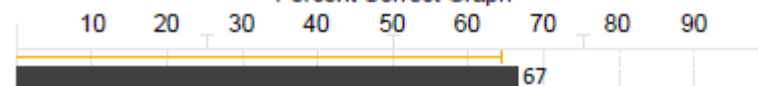
Points Earned: 15 out of 18

Average Score: 8.2 out of 18

Percent of Points Earned: 83%

### The Number System

Percent Correct Graph



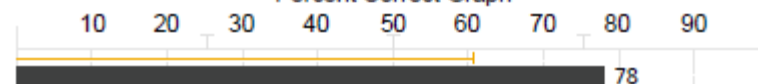
Points Earned: 10 out of 15

Average Score: 9.6 out of 15

Percent of Points Earned: 67%

### Expressions and Equations

Percent Correct Graph



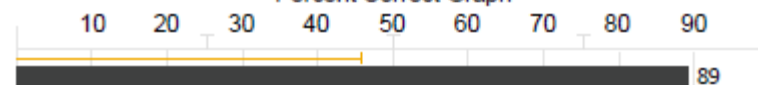
Points Earned: 14 out of 18

Average Score: 7.3 out of 12

Percent of Points Earned: 78%

### Geometry

Percent Correct Graph



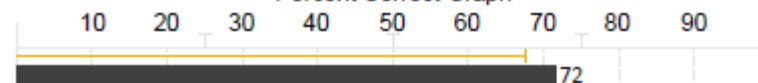
Points Earned: 16 out of 18

Average Score: 8.4 out of 18

Percent of Points Earned: 89%

### Statistics and Probability

Percent Correct Graph



Points Earned: 13 out of 18

Average Score: 12.3 out of 18

Percent of Points Earned: 72%

## Iowa Testing Programs (Individual report)

Name: JOSEPH  
District:  
Building:  
State ID:  
Grade: 11 (year: 2013-2014)

Date Created: 9/16/2014

Subject	Observed 2012-13	Expected 2013-14	Observed 2013-14	Expected Growth	Observed Growth	Expected 2014-15
Reading	324	336	321	12	-3	327
Mathematics	321	328	343	7	22	348

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# Professional Development

<b>Annual Workshops</b>	Annual workshops provided to AEA, district or school staff: Changes to assessments Interpretation of results Online training eITP training
<b>Customized Professional Development</b>	Direct, customized trainings to AEA, district or school staff: Interpretation of results Alignment to local curriculum Local growth interpretations
<b>Documents</b>	Accessible documents via ITP's website include: Training materials Interpretive Guides Research Guides and Bulletins Powerpoint Presentations All information is available locally and can be copied to meet the local needs
<b>Webinars</b>	Support on topics that are effectively addressed at a distance: Data management Calculation of local norms Interpretation and calculation of growth goals Using eITP to monitor growth and readiness

# Concluding Comments

- State of Iowa solution for Iowa's students and educators
- Commitment to serving Iowa educators through professional development
- Reporting levels of information that are actionable by many audiences
- Tangible validity evidence for growth and postsecondary readiness