A Collective Commitment:

Lighting the Way

The Georgia Formative Item Bank Sheds Light on Student Performance Expectations and Achievement
How will our collective commitment prepare students for college and career readiness?
“Major reviews of research on the effects of formative assessment indicate that it might be one of the more powerful weapons in a teacher’s arsenal.”

Robert Marzano, 2006
Georgia’s Formative Item Bank

- Items created for Georgia educators as an instructional resource to be used formatively during instruction
  - Provide information about student performance throughout the academic year to inform instruction and interventions
  - Reteach, remediate, move forward, enrich
  - Low stakes; grading discouraged
- Aligned with state-mandated content standards in English Language Arts (ELA) and Mathematics, grades 3 – HS
- Various formats, but primarily constructed response, in order to measure the full expectations of what students need to know and be able to do to be on the trajectory of exiting high school college- and career-ready
Why Formative Use Is Encouraged?

- Research-based practice that shows gains in student achievement for all students, but has shown even larger gains for persistently low-performing students
- Provides teachers insight into the rigorous student expectations of the state-mandated content standards and future summative assessments
- Allows students to see what is expected of them and to engage more actively and responsibly for their learning
- Catalyst for on-going classroom feedback; student to teacher and teacher to student
Re-Design might involve changing activities, instructional techniques, assessment methods or content, and/or differentiation based upon student needs.
Resources Provided by GaDOE Assessment to Encourage and Support the Formative Instructional Practices in Georgia Classrooms

- Georgia Formative Item Bank
- Georgia Interim Benchmark Assessments
- Georgia FIP: The Keys to Student Success - a professional learning course
The Georgia Formative Item Bank

• Bank of over 1600+ classroom assessment items aligned with the state’s curriculum in ELA and Math
• Created for exclusive use in Georgia classrooms
• Piloted with Georgia students
• Reviewed by Georgia educators
• Housed in the Georgia Online Assessment System (OAS)
• Preponderance of items at DOK 3 and 4
• Item, rubric and scored student sample papers provided
• Available to ALL Georgia Teachers!
  – 700+ items piloted in spring 2012; currently in OAS
  – 900+ new items piloted in spring 2013; available in OAS fall of 2013
Item Content

• Georgia’s Content Standards
  – Mathematics: Grades 3 – 8; high school Coordinate Algebra, Analytic Geometry and Advanced Algebra
  – English/Language Arts (including Reading): Grades 3 – 8; high school 9th and 10th grade literature and American Literature

• Items aligned to multiple standards
  – One primary standard
  – One or more secondary standards

• Alignment verified by Georgia educators
Item Formats

• Constructed-response
  – Extended Response
  – Scaffolded
• Multiple choice
• Constructed-response items require students to provide explanations/rationales, provide evidence, and/or to show work
• Preponderance of items at DOK 3 and 4
• Provide teachers with evidence of true student understanding of content and process
Extended Response Items

• Performance-based tasks
• May address multiple standards, multiple domains, and/or multiple areas of the curriculum
• May allow for multiple correct responses and/or varying methods of arriving at a correct answer
• Scored through use of a rubric and associated student exemplars
Scaffolded Items

• Include a sequence of items or tasks
• Designed to demonstrate deeper understanding
• May be multi-standard and multi-domain
• May guide a student to mapping out a response to a more extended task
• Scored through use of a rubric and associated student exemplars
Rubrics

• Holistic
• 5-point scale (0 – 4)
  – 4: Thoroughly Demonstrated
  – 3: Clearly Demonstrated
  – 2: Basically Demonstrated
  – 1: Minimally Demonstrated
  – 0: Incorrect or Irrelevant
Exemplar Papers

• Prototype answer – the “ideal” response
• Set of responses from actual Georgia students, collected during item pilots
• Samples scored by trained raters using rubric
• Papers allow teachers to review and compare their own students’ work to the sample responses for each score point
  -- Helps standardize expectations of the standards
• Score point and annotations provided for each sample item response

Note: The pilot was conducted using standard administration procedures in order to ensure that results were comparable across the state. When items/tasks are used during instruction, these administration rules do not have to apply and student results may vary; thus, teachers may want to modify the rubrics and even raise expectations. Rubrics and exemplars should remain focused on high expectations.
Valuable Features of Formative Items and Passages -- ELA

- Primary standard for each item is reading (either Informational or Literary)
- Increased focus on informational reading
- Paired passages
  - Literary with Literary
  - Informational with Informational
  - Literary with Informational
- Alignment to grade appropriate Lexiles (a mixture of upper, middle and lower range reading passages based upon the Lexile bands for each grade level)
- Integration of reading content knowledge and skills with writing skills
Valuable Features of Formative Items – Math

- Items include intentional focus on assessing processes used by students as well as the required content
- Items applied in real-world context
- Writing requirements, such as explanations and reasoning
- Student responses on constructed-response items/tasks
  - make student knowledge and skills transparent to teachers
  - illuminate student misconceptions
Formative Item Bank

Example

English Language Arts
A Growing Friendship

Sabrina’s eyes grew wide like saucers as she entered her third grade classroom on Monday morning. The usual rows of desks were nowhere to be seen. Instead, the room looked like a science lab. Tables with microscopes, measuring cups, rulers, and other science equipment filled the room.

“Hang up your backpacks and find your table,” Ms. Tulley called from the front of the room. Sabrina giggled at her teacher’s white lab coat and protective eye goggles. This was going to be an unusual day in Room 3B.

Sabrina quickly followed her teacher’s directions. But when she found her table, Sabrina wilted. Sitting next to plastic pots, measuring cups, and a ruler was a packet of bean seeds and some potting soil. She would have to grow bean plants.

Sabrina let out a heavy sigh. The last time she tried to plant a seed, she added too much water and the plant never grew. When her mom asked her to help take care of some flowers, they wilted.

As Sabrina sadly fumbled the packet of seeds through her fingers, a boy named Lucas approached her table. He pointed to the card on the table with his name on it. “I’m your lab partner,” he said shyly.

Sabrina nodded awkwardly. Lucas was a quiet student. He was new to the school, and Sabrina had not talked with him much. She was sure Lucas was nice. But she really wished her teacher had partnered her up with her best friend Keisha, especially if she was going to have to grow a plant. Keisha had a green thumb. She always took good care of plants.

“You don’t want to be my partner,” Sabrina mumbled to Lucas. “I’m not very good at growing seeds.” Lucas stared blankly back at her. Then Sabrina really worried.

Ms. Tulley spoke again. “The procedure for your experiment is on your table. It will explain exactly what you and your partner are supposed to do. You may begin now,” she instructed.

Sabrina looked up at Lucas. Why couldn’t she be at the table where students grew crystals or made volcanoes? What had started out as a fun morning was quickly turning into the worst day of the school year.

At first, the two young scientists quietly stared at the materials on their table. Finally, Lucas picked up the card with the procedure for their assignment written on it. The card outlined exactly what they should do with the seeds.

Lucas spoke first. “This isn’t so hard,” he said. “We need to plant a seed in three different pots.” Lucas opened the bag of potting soil and picked up a pot. Sabrina was surprised at the way he took charge. She had never really even heard him speak.

Lucas helped Sabrina measure two cups of soil into three different plastic pots. Then they used the ruler to measure and pressed a bean seed 4 cm down into the soil in each pot. Sabrina smiled as the soil squished between her fingers, and Lucas laughed out loud.

“Now we have to water the seeds,” Lucas read from the card.

“Only we need to use tap water, soda water, and apple juice,” Sabrina read the card, too. She was becoming more confident as she and Lucas performed each step of the experiment.

Mrs. Tulley kept all of the liquids in the back of the room. Together, Sabrina and Lucas went to measure the correct amount of liquid to pour into each cup. As Sabrina nervously tried to fill a measuring cup with apple juice, she nervously spilled the juice on the counter. Frustrated, she set down the cup and looked anxiously at Lucas. Now she remembered why she didn’t like to work with plants.

“Don’t worry, you will be fine. Just be patient while you measure,” he said calmly.

“I’m glad you are my partner,” Sabrina admitted as Lucas helped her finish adding liquid to each pot. “You seem to know a lot about growing seeds.”

Lucas smiled. “Well, my dad works in a garden nursery. We have lots of plants and flowers at home,” he confessed. “I like helping him in the yard, and he tells me a lot about caring for the different types of plants.”

Just then, Mrs. Tulley called for attention. “It’s time to clean up for the day. Tomorrow we will observe our experiments and see if a change has occurred.”

Sabrina couldn’t wait to discover which liquid would grow the best bean plant. She had a new attitude toward plants, too.

“Maybe my mom could bring me to the nursery sometime,” she said to Lucas. “I’d like to try taking care of another plant.”
"I think you'd do a good job," Lucas replied. "Just remember to take your time and water your plant carefully."

"Thanks," said Sabrina. She hoped to someday have a green thumb like Keisha, too.

Science Experiment

Bean seeds are very easy to grow. You can experiment to discover what type of liquid will grow the best bean plants.

Materials you will need:
- a packet of bean seeds
- some potting soil
- 6 plastic cups
- apple juice
- soda water
- tap water
- a 1-cup measuring cup
- a measuring cup that measures 1/8 cup
- a ruler
- a pen for labeling
- paper for taking notes

Procedure:
2) Fill each cup with 2 cups of potting soil.
3) Press one bean seed 4 cm deep into the soil of each cup.
4) Pour 1/8 cup tap water to the cups labeled Water A and Water B.
5) Pour 1/8 cup soda water to the cups labeled Soda Water A and Soda Water B.
6) Pour 1/8 cup apple juice into the cups labeled Apple Juice A and Apple Juice B.
7) Set the plastic cups in a well-lit area in a safe spot.
8) Pour 1/8 cup of the correct liquid into the correct cup every other day.
9) Every day, observe the cups for growth, and write down what you see. When the beans begin to sprout, use the ruler to measure the height of the shoots. Make a table like the one below to record your data and observations.

10) After ten days, you will be able to answer the question: Which liquid will grow the best bean plants?

<table>
<thead>
<tr>
<th>Data and Observations</th>
<th>Record the height of the bean sprouts in cm and any other observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water A</td>
<td>Water B</td>
</tr>
<tr>
<td>Day 1</td>
<td></td>
</tr>
<tr>
<td>Day 2</td>
<td></td>
</tr>
<tr>
<td>Day 3</td>
<td></td>
</tr>
<tr>
<td>Day 4</td>
<td></td>
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<td>Day 5</td>
<td></td>
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<td>Day 6</td>
<td></td>
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<tr>
<td>Day 7</td>
<td></td>
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<tr>
<td>Day 8</td>
<td></td>
</tr>
<tr>
<td>Day 9</td>
<td></td>
</tr>
<tr>
<td>Day 10</td>
<td></td>
</tr>
</tbody>
</table>

Explain why Sabrina felt nervous about doing something new. Use details from the story and your own personal experience to support your explanation.

Be sure to complete ALL parts of the task.
# Grade 3 Rubric for Item 1

<table>
<thead>
<tr>
<th>Score</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>The student thoroughly explains why Sabrina is nervous about doing something new. The student effectively integrates details from the story and personal experience to support the explanation.</td>
</tr>
<tr>
<td>3</td>
<td>Clearly Demonstrated</td>
<td>The student provides a relevant explanation about why Sabrina is nervous about doing something new. The student uses details from the story and personal experience to support the explanation.</td>
</tr>
<tr>
<td>2</td>
<td>Basically Demonstrated</td>
<td>The student provides an explanation about why Sabrina is nervous about doing something new. The student uses details from the story and personal experience to support the explanation, although some details may be incorrect and/or irrelevant.</td>
</tr>
<tr>
<td>1</td>
<td>Minimally Demonstrated</td>
<td>The student gives brief explanation about why Sabrina is nervous, but provides no text details or personal experience to support; or the student lists details from the story which are relevant to Sabrina being nervous about doing something new.</td>
</tr>
<tr>
<td>0</td>
<td>Incorrect or Irrelevant</td>
<td>The response is incorrect or irrelevant.</td>
</tr>
</tbody>
</table>
Sabrina felt nervous about doing something new because she wasn’t very good with plants and she wasn’t crazy about her new partner.

The story said she had bad luck when she tried to plant seeds with her mom. The flowers had wilted because she used too much water. So she really wanted to do the volcanoes or crystal experiment and not do plants at all. I know that I’m not very good at playing basketball so when my friend asks me to play, I usually say no. I’m afraid they’ll make fun of me so maybe Sabrina was afraid her partner would make fun of her.

She didn’t really know Lucas that well. That made her nervous. When I went to my first afterschool activities meeting, I didn’t know anyone and I just wanted to go home. But my mom told me to stay and now I have a new friend. So Sabrina might have been afraid Lucas would tease her or be afraid he might not know how to grow the plants either. But Lucas did know how to care for plants because his dad worked at a nursery. And Lucas was very nice to Sabrina. In the end she stuck it out like I did and made a new friend too.
Grade 3  Sample Student Response for Item 1

Student Response

She was nervous about growing plants because she had tried before and not done very well. Sabrina had given the plants too much water and the plants wilted. She had these encounters and it made her afraid that she was going to mess up there, too. When I first started planting plants with my mom I was afraid I might mess up our plants. But then I asked my mom to help me and I got better and better! So then I tried it myself and when I finished my mom said I did great!

Teacher Feedback

The student provides a relevant explanation about why Sabrina is nervous about doing something new (because she had tried before and not done very well, it made her afraid that she was going to mess up there, too). The student uses details from the story and personal experience to support the explanation (I was afraid I might mess up our plants, I asked my mom to help me and I got better, I tried it myself). The student’s understanding of the task is clearly demonstrated in this response.

Rating based upon rubric

Passage and Item from FIB Phase 1
Grade 3 Sample Student Response for Item 1

I think she is nervous because she has not had a good experience with gardening. For example, I once went on a rollercoaster and I did not like it. I was bawling and screaming. Then, my sister wanted to go on it again and I did the same exact thing. I will not do it again.

The student's understanding of the task is basically demonstrated in this response. The student provides an explanation about why Sabrina is nervous about doing something new (because she has not had a good experience with gardening). The student uses details from the story and personal experience to support the explanation (I once went on a rollercoaster and I did not like it, I will not do it again).

Passage and Item from FIB Phase 1
Grade 3 Sample
Student
Response for Item 1

She got nervous, because last time she failed.

The student’s understanding of the task is minimally demonstrated in this response. The student gives a brief explanation about why Sabrina is nervous, but provides no text detail to support the explanation.
Grade 3 ELA Item
Performance Data for Item 1

• Item Type: Extended Response
• DOK: 3
• Number of Students in Pilot: 90
• Response Data
  – 4’s: 1 for 1.11%
  – 3’s: 6 for 6.67%
  – 2’s: 27 for 30%
  – 1’s: 53 for 58.89%
  – 0’s: 3 for 3.33%
Grade 3 ELA Item

Explain how jumping bean larvae and “jumper” shrubs help each other stay healthy.

Be sure to complete ALL parts of the task. Use details from the text to support your answer. Answer with complete sentences, and use correct punctuation and grammar.
She got nervous, because last time she failed.

The student's understanding of the task is minimally demonstrated in this response. The student gives a brief explanation about why Sabrina is nervous, but provides no text detail to support the explanation.
## Grade 3 ELA Rubric

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>The student demonstrates a thorough understanding of the text by explaining that the larvae control the growth of shrubs by eating the seeds, which keeps the shrubs from getting overcrowded. For their part, the shrubs produce the food that the larvae need. The student uses complete sentences, correct punctuation, and grammar in the writing.</td>
</tr>
<tr>
<td>3</td>
<td>Clearly Demonstrated</td>
<td>The student demonstrates a clear understanding of the text by explaining the role of either the larvae or the jumper shrubs correctly. The student uses complete sentences, correct punctuation, and grammar. OR The student explains the roles of both the larvae and the shrubs correctly, and the student uses mostly complete sentences, correct punctuation, and grammar.</td>
</tr>
<tr>
<td>2</td>
<td>Basically Demonstrated</td>
<td>The student demonstrates a basic understanding of the text by explaining the role of either the larvae or the shrubs. The student uses some complete sentences, punctuation, and grammar. OR The student explains the roles of both the larvae and the shrubs in bulleted or list form, without using complete sentences, correct punctuation, and grammar.</td>
</tr>
<tr>
<td>1</td>
<td>Minimally Demonstrated</td>
<td>The student demonstrates a minimal understanding of the text by explaining the role of the larvae or the shrubs, but support from the text is lacking. The student response has significant errors in constructing complete sentences and/or using correct punctuation and grammar.</td>
</tr>
<tr>
<td>0</td>
<td>Incorrect or irrelevant</td>
<td>The student fails to address any portion of the prompt correctly.</td>
</tr>
</tbody>
</table>

ELA rubrics in Phase II include verbiage to address writing conventions.
Please read the selection below and then answer the questions that follow.

Garrett A. Morgan: A Lasting Legacy

Garrett Augustus Morgan was an African-American businessman and inventor whose curiosity and creativity led to the development of many useful and helpful products. A practical man of humble beginnings, Morgan devoted his life to creating things that made the lives of other people safer and more convenient.

Among his inventions was an early traffic signal that greatly improved safety on America’s streets and roadways. Indeed, Morgan’s technology was the basis for modern traffic signal systems and was an early example of what we know today as Intelligent Transportation Systems.

The Inventor’s Early Life
Garrett A. Morgan was born in Paris, Kentucky, on March 4, 1877. His early childhood was spent attending school and working on the family farm with his brothers and sisters. While still a teenager, he left Kentucky and moved north to Cincinnati, Ohio, in search of opportunity.

Although Morgan’s formal education never took him beyond elementary school, he hired a tutor while living in Cincinnati and continued his studies in English grammar. In 1895, Morgan moved to Cleveland, Ohio, where he went to work as a sewing machine repairman for a clothing manufacturer. News of his proficiency for fixing things and experimenting traveled fast and led to numerous job offers from various manufacturing firms in the Cleveland area.

In 1907, Morgan opened his own sewing equipment and repair shop. It was the first of several businesses he would establish. In 1909, he expanded the enterprise to include a tailoring shop that employed 32 employees. The new company turned out coats, suits, and dresses, all sewn with equipment that Morgan himself had made.

In 1920, Morgan moved into the newspaper business when he established the Cleveland Call. As the years went on, he became a prosperous and widely respected man, and he was able to purchase a home and an automobile. Indeed, it was Morgan’s experience while driving along the streets of Cleveland that led to the invention of the nation’s first patented traffic signal.
Grade 8 ELA Task

This task has more than one (1) part. Read each part carefully and respond.

**Part A**
Other than the traffic signal, list inventions the biography credits to Garrett Morgan.

**Part B**
The author claims that Garrett Morgan made significant contributions to the public other than his traffic signal. Evaluate if the evidence given to support this claim is sufficient. Write your evaluation using details from the biography for support.

Be sure to complete ALL parts of the task.
Use details from the text to support your answer.
Answer with complete sentences, and use correct punctuation and grammar.
<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>The student demonstrates thorough understanding of the questions and text by listing more than two inventions of Garrett Morgan in Part A. In Part B, the student writes a logical evaluation of whether there is sufficient evidence to support the author’s claim about Morgan’s contributions to the public. The evaluation is clearly supported with multiple specific and relevant details from the biography. The student uses complete sentences and correct punctuation and grammar.</td>
</tr>
<tr>
<td>3</td>
<td>Clearly Demonstrated</td>
<td>The student demonstrates clear understanding of the questions and text by listing two inventions of Garrett Morgan in Part A. In Part B, the student writes an evaluation of whether there is sufficient evidence to support the author’s claim about Morgan’s contributions to the public. The evaluation is supported with a few relevant details from the biography; some details may be general. The student uses complete sentences and correct punctuation and grammar in most of the writing.</td>
</tr>
<tr>
<td>2</td>
<td>Basically Demonstrated</td>
<td>The student demonstrates basic understanding of the questions and text by listing one invention of Garrett Morgan in Part A. In Part B, the student states an argument or position on the claim made about Morgan, but support for the evaluation is minimal; some support may be incorrect or irrelevant. The student uses complete sentences and correct punctuation and grammar in some of the writing.</td>
</tr>
<tr>
<td>1</td>
<td>Minimally Demonstrated</td>
<td>The student demonstrates minimal understanding of the question by listing one of the inventions of Garrett Morgan in Part A. OR The student writes a general description on the topic of Morgan’s contributions in Part B. The response offers no supporting details and may have significant errors in sentence construction, punctuation, and grammar.</td>
</tr>
<tr>
<td>0</td>
<td>Incorrect or Irrelevant</td>
<td>The student response does not correctly identify an invention and does not provide an evaluation of the support provided for the claim about Morgan’s contributions.</td>
</tr>
</tbody>
</table>
Grade 12 ELA Task

Explain what rhetorical strategies Ralph Waldo Emerson used in his letter to President Martin Van Buren to achieve his purpose for writing the letter. Use details from the excerpt of the letter included within the article to support your explanation.
# Grade 12 ELA Rubric

<table>
<thead>
<tr>
<th>Score</th>
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</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>The writing provides a thorough description of multiple rhetorical strategies Ralph Waldo Emerson employs in his letter to President Martin Van Buren; including a clear understanding of Emerson’s persuasive purpose in writing the letter. The writing contains many relevant and accurate details from the article to support the explanations of the chosen rhetorical strategies.</td>
</tr>
<tr>
<td>3</td>
<td>Clearly Demonstrated</td>
<td>The writing clearly describes a few rhetorical strategies Ralph Waldo Emerson uses in his letter to President Martin Van Buren, with or without an implied understanding of Emerson’s persuasive purpose. There are some details from the article to support the explanations of the chosen rhetorical strategies, and these details are mostly accurate and relevant.</td>
</tr>
<tr>
<td>2</td>
<td>Basically Demonstrated</td>
<td>The writing contains one accurate rhetorical strategy Ralph Waldo Emerson uses in his letter to President Martin Van Buren, with one or two mostly accurate and relevant details from the article to support the explanation(s). OR the writing contains an opinion of the effectiveness of Ralph Waldo Emerson’s letter to President Martin Van Buren, without identifying any particular rhetorical strategies he employs. The writing includes some details from the excerpt of the article for support.</td>
</tr>
<tr>
<td>1</td>
<td>Minimally Demonstrated</td>
<td>The writing provides one or more rhetorical strategies Ralph Waldo Emerson uses in his letter to President Martin Van Buren but does not provide an explanation of those strategies or details from the article to support the response. OR the writing provides an opinion of the effectiveness of Ralph Waldo Emerson’s letter to President Martin Van Buren with only minimal detail from the excerpt for support. There are no rhetorical strategies given.</td>
</tr>
<tr>
<td>0</td>
<td>Incorrect or irrelevant</td>
<td>The response is incorrect or irrelevant.</td>
</tr>
</tbody>
</table>
Formative Item Bank

Examples

Math
Matt’s bank account balance at the end of each week for the month of October is shown in the table.

### Matt’s Bank Account

<table>
<thead>
<tr>
<th>Date</th>
<th>Account Balance (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 7</td>
<td>$45.50</td>
</tr>
<tr>
<td>October 14</td>
<td>$39.25</td>
</tr>
<tr>
<td>October 21</td>
<td>$57.00</td>
</tr>
<tr>
<td>October 28</td>
<td>$20.25</td>
</tr>
</tbody>
</table>

**Part A**
What is the mean account balance for the amounts in the table? Show your work.

**Part B**
The expression below can be used to determine Matt’s take-home pay, in dollars, in one week when he works $h$ hours.

$$12h - 48.50$$

What is the amount Matt earns when $h = 20$? Show your work.

**Part C**
Matt deposited $311.50 into his account on October 28. After he paid several bills from the account, his account balance was $-5.00$. What was the total amount of the bills he paid that resulted in this balance? Explain your answer.

Be sure to complete ALL parts of the task.

Write your answer and show your work on the paper provided.

Do NOT type your answer in the text box below.

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**Rubric**

<table>
<thead>
<tr>
<th>Score</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>The student successfully completes all elements of the item and demonstrates the ability to determine mean (6.SP.5c), evaluate expressions using substitution (6.EE.2 and 6.NS.2), and distinguish comparisons of absolute value (6.NS.7d).</td>
</tr>
</tbody>
</table>
| 3     | Clearly Demonstrated | The student completes all elements of the item and demonstrates the ability to determine mean (6.SP.5c), evaluate expressions using substitution (6.EE.2 and 6.NS.2), and distinguish comparisons of absolute value (6.NS.7d), but commits minor calculation errors that lead to an incorrect solution.  
Or  
The student completes the tasks but insufficiently communicates (shows work or explains) the mathematical processes used. |
| 2     | Basically Demonstrated | The student demonstrates a basic understanding of finding the mean (6.SP.5c), evaluating decimal expressions using substitution (6.EE.2 and 6.NS.2), and distinguishing comparisons of absolute value (6.NS.7d), but commits multiple calculation errors that lead to incorrect solutions for two of the three parts.  
Or  
The student successfully determines the mean in Part A (6.SP.5c) but fails in Parts B and C to demonstrate the ability to evaluate expressions using substitution (6.EE.2 and 6.NS.2) and the ability to distinguish comparisons of absolute value (6.NS.7d).  
Or  
The student fails to demonstrate the ability to determine mean in Part A (6.SP.5c) but successfully evaluates decimal expressions using substitution in Part B (6.EE.2 and 6.NS.2) and distinguishes comparisons of absolute value in Part C (6.NS.7d). |
| 1     | Minimally Demonstrated | The student fails to demonstrate the ability to determine mean in Part A (6.SP.5c).  
And  
The student is successful finding only one solution in Parts B or C. |
| 0     | Incorrect or Irrelevant | The response is incorrect or irrelevant to the skill or concept being measured. |
Grade 6
Exemplar and Sample Student Response

Part A
The mean balance is $40.50.
\[
\frac{45.50 + 39.25 + 57.00 + 20.25}{4} = 40.50
\]

Part B
$191.50
12(20) - 48.50 = 240 - 48.50 = 191.50

Part C
$336.75
balance after deposit: 20.25 + 311.50 = 331.75
I took the original balance and that day and added the deposit and then added the 5 dollars he was over to get $336.75.

The response demonstrates a clear understanding of the problem. Part A is correct with complete supportive work for finding the mean. Part B is correct with the complete mathematical process shown. Part C is correct with supportive work shown, but is missing a complete explanation for the account balance of -$5.00.
The response demonstrates a basic understanding of the problem. Part A is correct with complete supportive work for finding the mean. Part B is correct with the complete mathematical process shown. Part C has a written explanation for the reason his bank account has a balance of -$5.00; however does not show work or a correct answer for the total amount of bills he paid.

Anchor 2

The response demonstrates a minimal understanding of the problem. Part A, labeled as part 1 is incorrect; the response uses only two of the balances to find a mean. Part B is correct with complete supportive work shown. Part C is incorrect; the response does not add the account balance for October 28 ($20.25) to find the correct total of the bills paid.

Anchor 1

Item from FIB Phase I
Grade 6 Math Item
Performance Data

• Item Type: Extended Response
• DOK: 3
• Number of Students in Pilot: 87
• Response Data
  – 4’s: 0 for 0%
  – 3’s: 5 for 5.75%
  – 2’s: 34 for 39.08%
  – 1’s: 39 for 44.83%
  – 0’s: 9 for 10.34%
Ariana made the row of square-centimeter tiles as shown.

Part A
How many square-centimeter tiles did Ariana use?

Part B
Ariana made 3 more rows using the same number of tiles as in Part A. She put all of the rows together to make a larger rectangle. What is the area of the larger rectangle? Explain your answer.

Part C
Write an expression, using only multiplication, which can be used to find the area of the larger rectangle. Show your work or explain your answer.

Be sure to complete ALL parts of the task.
Write your answer and show your work on the paper provided.
Do NOT type your answer in the text box below.

---

**Rubric**

<table>
<thead>
<tr>
<th>Score</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>Correctly answers all parts. Student recognizes area as an attribute of plane figures and understands the concepts of area measurement (3.MD.5a); interprets products of whole numbers as the total number of objects (3.OA.1); recognizes area as additive (3.MD.7d), and measures area by counting unit squares (3.MD.6).</td>
</tr>
</tbody>
</table>
| 3     | Clearly Demonstrated         | Student recognizes area as an attribute of plane figures and understands the concepts of area measurement (3.MD.5), recognizes area as additive (3.MD.7d), and measures area by counting unit squares (3.MD.6). Writes an expression that is equivalent to 44, but uses addition instead of multiplication (3.OA.1). OR
|       |                              | Student does not explain or show the work leading to correct answer in either part A or part B. Student has difficulty communicating in mathematical language.                                                   |
| 2     | Basically Demonstrated       | Student recognizes area as an attribute of plane figures and understands the concepts of area measurement (3.MD.5). Student is unable to recognize area as additive in part B (3.MD.7d). Writes an expression that is equivalent to 44, but uses addition instead of multiplication (3.OA.1). |
| 1     | Minimally Demonstrated       | Measured the area in part A by counting (3.MD.6), but fails to recognize area as an attribute of plane figures and does not understand the concepts of area measurement (3.MD.5) or does not interpret the products of whole numbers as the total number of objects (3.OA.1). |
| 0     | Incorrect or irrelevant      | The response is incorrect or irrelevant to the skill or concept being measured.                                                                                                                                   |
Grade 3 Math Scaffolded Item Performance Data

- Item Type: Scaffolded
- DOK: 3
- Number of Students in Pilot: 44
- Response Data
  - 4’s: 5 for 11.36%
  - 3’s: 3 for 6.82%
  - 2’s: 18 for 40.19%
  - 1’s: 15 for 34.09%
  - 0’s: 3 for 6.82%
The table shows the dimensions of five rectangles.

<table>
<thead>
<tr>
<th>Rectangle</th>
<th>Length (cm)</th>
<th>Width (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>6x + 9y</td>
<td>2</td>
</tr>
<tr>
<td>#2</td>
<td>6x + 4y</td>
<td>3</td>
</tr>
<tr>
<td>#3</td>
<td>3x + 2y</td>
<td>6</td>
</tr>
<tr>
<td>#4</td>
<td>2x + 12y</td>
<td>9</td>
</tr>
<tr>
<td>#5</td>
<td>2x + y</td>
<td>12</td>
</tr>
</tbody>
</table>

The variables \( x \) and \( y \) are positive whole numbers, and \( x \) does not equal \( y \).

**Part A**
Using \( x \) and \( y \), write two different expressions that represent the perimeter of rectangle #1. Explain why your two expressions are equivalent.

**Part B**
Which rectangles, if any, have equal areas? Explain how you know.

**Part C**
Using \( x \) and \( y \), state the dimensions of a rectangle not listed in the table that has the same area as rectangle #5. Explain your answer.

Be sure to complete ALL parts of the task.
Write your answer and show your work on the paper provided.
Do NOT type your answer in the text box below.
# Grade 6 Math Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>The student successfully completes all elements of the item by demonstrating the ability to apply the properties of operations to generate equivalent expressions (6.EE.3), to identify when two expressions are equivalent (6.EE.4), and to apply techniques of finding area and perimeter in the context of solving problems (6.G.1).</td>
</tr>
<tr>
<td>3</td>
<td>Clearly Demonstrated</td>
<td>The student shows clear understanding of the concepts listed above, but makes a minor error in calculation Or The student gives one explanation that is incorrect or incomplete.</td>
</tr>
<tr>
<td>2</td>
<td>Basically Demonstrated</td>
<td>The student shows basic understanding of the concepts listed above by completing two parts of the item with at least one complete and correct explanation.</td>
</tr>
<tr>
<td>1</td>
<td>Minimally Demonstrated</td>
<td>The student shows minimal understanding of the concepts listed above by completing one of the three parts of the item with or without complete explanation.</td>
</tr>
<tr>
<td>0</td>
<td>Incorrect or irrelevant</td>
<td>The response is incorrect or irrelevant to the skill or concept being measured.</td>
</tr>
</tbody>
</table>
All of a city’s schools participated in a food-collection drive to stock the community food pantry. Each school reported the number of pounds of food collected. The histogram shows the results of the community food drive.

**Part A**

In which interval is the median number of pounds collected by the schools located? Explain your answer.

**Part B**

The same schools participated in the food-collection drive the previous year. The box plot gives the results for the previous year.

Estimate the difference, in pounds, between the medians of the two sets of data. Could the two medians be equal? Justify your answer.

**Part C**

With the information you have from the box plot, create a histogram that could represent the data from the previous year. Use the same weight intervals that are used in the given histogram. Remember to title the new histogram and label your axes.

Explain your strategy for determining the frequencies you used for the weight intervals in your histogram.
### Grade 9 Math Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Thoroughly Demonstrated</td>
<td>Correctly answers all parts. Student understands how to use statistics to compare center and spread of two data sets (S.ID.2), analyzes data with histograms and box plots, and represents data with histograms (S.ID.1).</td>
</tr>
<tr>
<td>3</td>
<td>Clearly Demonstrated</td>
<td>Student demonstrates understanding of using statistics to compare center and spread of two data sets (S.ID.2), but commits one or two minor computation or interpretation errors that lead to an incorrect solution in the histogram (S.ID.1). Or Student answers all parts correctly, but gives faulty or insufficient explanations/justifications in one or two of the parts.</td>
</tr>
<tr>
<td>2</td>
<td>Basically Demonstrated</td>
<td>Student demonstrates basic understanding of using statistics to compare center and spread of two data sets (S.ID.2) and gives correct solutions for Parts A and B, but commits multiple computation or interpretation errors and is unsuccessful representing the data in a histogram (S.ID.1) in Part C. Or Student gives a correct solution for one part and partially correct solutions for the other two parts. And One or two of the explanations/justifications are faulty or insufficient.</td>
</tr>
<tr>
<td>1</td>
<td>Minimally Demonstrated</td>
<td>Student demonstrates some understanding of using statistics to compare center and spread of two data sets (S.ID.2) and gives at least one correct solution for Parts A and B, but commits multiple computation or interpretation errors and is unsuccessful representing the data in a histogram (S.ID.1) in Part C. Or The student answers Parts A and B with only one or two minor computation or interpretation errors, including the explanations/justifications. And The student makes little or no attempt to devise a strategy to answer Part C. Or Student demonstrates some understanding of comparing center and spread of two data sets (S.ID.2) and representing data in a histogram (S.ID.1), as discernible in work and explanations, but is unsuccessful in producing a completely correct response for any of the parts.</td>
</tr>
<tr>
<td>0</td>
<td>Incorrect or irrelevant</td>
<td>The response is incorrect or irrelevant to the skills or concepts being measured.</td>
</tr>
</tbody>
</table>
# Overall ELA Pilot Summary Data

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number of students and percent falling into each score point</th>
<th>Total student N/ %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>475</td>
<td>1613</td>
</tr>
<tr>
<td></td>
<td><strong>15.60%</strong></td>
<td><strong>52.90%</strong></td>
</tr>
<tr>
<td>4</td>
<td>323</td>
<td>1518</td>
</tr>
<tr>
<td></td>
<td><strong>11.00%</strong></td>
<td><strong>51.70%</strong></td>
</tr>
<tr>
<td>5</td>
<td>367</td>
<td>1100</td>
</tr>
<tr>
<td></td>
<td><strong>12.20%</strong></td>
<td><strong>36.50%</strong></td>
</tr>
<tr>
<td>6</td>
<td>155</td>
<td>960</td>
</tr>
<tr>
<td></td>
<td><strong>6.30%</strong></td>
<td><strong>39.10%</strong></td>
</tr>
<tr>
<td>7</td>
<td>218</td>
<td>1387</td>
</tr>
<tr>
<td></td>
<td><strong>6.00%</strong></td>
<td><strong>38.10%</strong></td>
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<tr>
<td>8</td>
<td>264</td>
<td>1140</td>
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<tr>
<td></td>
<td><strong>9.20%</strong></td>
<td><strong>39.90%</strong></td>
</tr>
<tr>
<td>9 - 10</td>
<td>175</td>
<td>1016</td>
</tr>
<tr>
<td></td>
<td><strong>7.20%</strong></td>
<td><strong>42.10%</strong></td>
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<tr>
<td>11 - 12</td>
<td>376</td>
<td>1018</td>
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<td><strong>15.70%</strong></td>
<td><strong>42.40%</strong></td>
</tr>
<tr>
<td>Grade</td>
<td>Number of students and percent falling into each score point</td>
<td>Total student N/ %</td>
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<tr>
<td></td>
<td>Number of students and percent falling into each score point</td>
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</tr>
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<td></td>
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<tr>
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<td>771</td>
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<tr>
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<td>9-10</td>
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<td>39.80%</td>
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<tr>
<td>11-12</td>
<td>690</td>
<td>602</td>
</tr>
<tr>
<td></td>
<td>44.70%</td>
<td>39.00%</td>
</tr>
</tbody>
</table>
Key Findings from Phase I Pilot

- Preponderance of score points 1 and 2
- Responses hampered by writing skills
  - Explanations not clear
  - Math explanations don’t support work shown – students perform algorithms without understanding
- Incomplete responses
Key Findings from Phase I Pilot

• Overall performance shortfalls
  – Many students lacked organization and neatness
  – Didn’t seem to understand what question was requiring
  – Didn’t follow directions well
  – Didn’t answer all parts of questions
  – Didn’t follow through with “units” in math answers
  – Didn’t have keyboarding skills – future of testing is online and there are ELA standards (W6) in grades 4, 5, and 6
Implications for Phase II Pilot and for Classrooms

- Clearer directions for students with more specificity for student responses
  - **FOR ELA:** Be sure to complete ALL parts of the task. Use details from the text to support your answer. Answer with complete sentences, and use correct punctuation and grammar.
  - **FOR Mathematics:** Be sure to complete ALL parts of the task. Write your answer and show your work on the paper provided. Do NOT type your answer in the text box below.

- Checklists to assist students in assessing their own responses

- Reinforce instructional recommendations to teachers
  - Classroom instruction and assessments aligned with state-mandated content standards
  - Implementation of lessons and assessments that address multiple standards and domains.
Items in OAS

• 700+ Phase I items already in Georgia Online Assessment System (OAS)
• 900+ Phase II items will be loaded into OAS in fall of 2013
• Same OAS log-in as used in the past
  – If you need an OAS log-in access code,
    • Contact your School Administrator for OAS log-in access code
    • School Administrators should contact their system test coordinator for assistance if needed
Where do you Find the Items?
Searching in the OAS

You create test name and ID that are meaningful to you.

Naming Idea: “Formative” and Domain Name, such as literary comprehension.
Searching in the OAS

Choose one of the following options:

- Create a new test
- Modify a test
- Delete a test

Try a test
Print a test

Assign test(s) to class(es) (Assign DOE benchmark tests on the Classes Tab)
View student test results
Score open ended items

Search for Tests by: Name
Search

Leave field blank to search all records
Searching the OAS for Formative Items

The name you created in previous steps

Test Name: search (search)
Item Level: Level 2 items (school)
Subject: Language Arts
Grade Level: 6
Domain: Formative
Domain: Literary Comprehension
Standard: All

advanced search

Back Clear Show Items
Search Steps

• Create Test (Test Name and Test Identifier, submit)
• Item Level (Select Level 2)
• Subject (Select Language Arts or Math)
• Grade Level (Select grade 3 – 8)
• Domain (Select Formative)
• Domain (Select Appropriate Domain or ALL, i.e. Information and Media Literacy)
• Standard (Select Standard or ALL)
• Show Items
On the Horizon

• Phase II Formative Item Bank loaded into OAS—Fall 2013
• Phase I and Phase II Interim Benchmark Assessments loaded into OAS, projected Spring and Fall 2014
• Formative Instructional Practices (FIP) professional learning, will be available summer 2013 and implementation in school systems TBD by each school system
Formative Assessment Resources for Educators

For more information about the Formative Item Bank Project

www.georgiaoas.org
Formative Assessment Resources for Educators

http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/OAS-Resources.aspx

Includes:

• About the Formative Item Bank (document)
• About the Formative Item Bank (presentation)
• Student Checklist for ELA
• Students Checklist for Math
• Link to the OAS
• Link to Georgia Standards.org
Questions
“Quality assessment is a system of assessing what students know and are able to do in a manner that garners accurate information from students for the purpose of improving learning.”

Rick Stiggins, 2008
Georgia Department of Education Assessment and Accountability

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Kelli Harris-Wright, Ed.S.
Assessment Specialist, RT3
Assessment Literacy Professional Learning
404.463.5047
kharris-wright@doe.k12.ga.us
<table>
<thead>
<tr>
<th>Session Title</th>
<th>I can DO</th>
<th>I will NEED</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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<td>#9</td>
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</table>
A Collective Commitment:

Lighting the Way

The Georgia Formative Item Bank Sheds Light on Student Performance Expectations and Achievement