THE CHALLENGES AND REWARDS OF STANDARDS BASED GRADING

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WHY SBG?

Name: David Miller
Honors Geometry
Quiz: 7.1 - 7.2

Find the value of the missing side, x. Write your answer in simplified radical form.

1. \(x^2 + 6^2 = 12^2\)
   \(x^2 + 36 = 144\)
   \(x^2 = 108\)
   \(x = 6\sqrt{3}\)

\(x^2 + 10^2 = 194\)
\(x^2 + 100 = 194\)
\(x^2 = 94\)
\(x = 2\sqrt{23}\)
WHY SBG?

WHY DID WE MOVE TO SBG?

- better feedback for students
  - students gained clarity on what they know and where they need to improve
- more focused assessments
  - shorter assessments - 1 or 2 standards only
- multiple assessments on the same standard
  - teacher driven OR student request
- chance to grade more qualitatively
- no more points collection
WHAT RESOURCES GUIDED US?

- Rodney Stutzman & Kimberly Race
  - “EMRF: Everyday Rubric Grading” - Mathematics Teacher, January 2004
- Shawn Cornally
  - http://shawncornally.com/wordpress/
- Riley Lark
  - ActiveGrade
- Dan Meyer
  - blog.mrmeyer.com

HOW DID WE START?

- Refer to topics, not textbook sections
- Focus assessments on one or two standards
- Design grading rubric
## Intermediate Steps

- **Shift to Standards**
  - Giving feedback on individual standards
  - No quiz or test grades

- **Grade Calculations**
  - Utilized ActiveGrade
  - Most recent score only

- **Give Students Ownership of Scores**
  - Additional assessments

### Progress (30%)
- Consistent high achievement (above 90% level).
- Mostly consistent improvement (a general trend of improvement, but with some lower performance allowed).
- Mostly consistent perseverance on difficult concepts (often trying to maintain a medium level or performance).
- Consistent perseverance on difficult concepts (even without high performance).
- No discernable improvement (each assessment is about the same as the previous one).

### Participation (20%)
- More than 90% of homework completed.
- More than 90% of class notes taken.
- More than 90% of classwork completed.
- Regularly (8-10 times per week) asks questions and/or contributes meaningfully to discussions.

### Performance (40%)
- Test scores average 90% - 100%.
- Quiz activity & project scores average 80% - 90%.
- Test scores average 70% - 80%.
- Quiz activity & project scores average 60% - 70%.
- Test scores average below 60%.
- Quiz activity & project scores average below 50%.
WHAT REWARDS DID WE SEE?

- students talk less about points and more about what they know
- students engage in more focused relearning
- students ask about topics not section numbers
- opportunity to give higher quality feedback

WHAT CHALLENGES DID WE FACE?

- First scoring rubric was unsustainably complex
- Student buy-in / School culture
- Not transparent enough for parents
- How to design and grade Unit Tests
- Identifying and wording standards
WHERE ARE WE NOW?

Mike - AP Calculus
- teacher’s choice for additional assessments
- decaying average 75% most recent (ActiveGrade)
- limited tests in favor of multiple quizzes
- generic scoring rubric
- score each question; average for standard score

<table>
<thead>
<tr>
<th>5 (A)</th>
<th>4 (B)</th>
<th>3 (C)</th>
<th>2 (D)</th>
<th>1 (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus, algebra &amp; arithmetic is correct.</td>
<td>Calculus is mostly correct; algebra / arithmetic errors.</td>
<td>Minor Calculus error(s) present.</td>
<td>Major Calculus error(s) present.</td>
<td>No significant attempt was made.</td>
</tr>
<tr>
<td>“I know the content.”</td>
<td>“I knows some of the content but have a few gaps.”</td>
<td>“I know some of the content but I don’t understand thoroughly.”</td>
<td>“I’ve seen the content but I don’t know enough do anything.”</td>
<td>“I don’t know the content.”</td>
</tr>
</tbody>
</table>
WHERE ARE WE NOW?

Matt - AP Statistics, Hon. Geometry
• student’s choice for additional assessments
• decaying average 75% most recent (ActiveGrade)
• most standards assessed twice through quizzes, tests, AP practice
• generic scoring rubric
• score each standard based on all questions

<table>
<thead>
<tr>
<th>5 (A)</th>
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<th>3 (C)</th>
<th>2 (D)</th>
<th>1 (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistical Reasoning is correct. Solution is appropriate &amp; complete.</td>
<td>Statistical Reasoning is mostly correct. Minor procedural errors or incomplete explanation.</td>
<td>Minor Statistical error(s) present. Solution is incomplete but correct.</td>
<td>Major Statistical error(s) present. Solution is incomplete and incorrect.</td>
<td>No significant attempt was made.</td>
</tr>
<tr>
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</tr>
<tr>
<td>Standards &amp; Questions</td>
<td>Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>1 4 11 12 14 15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Least Squares Regression Line</td>
<td>2 5 9 16 17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictions &amp; Residuals</td>
<td>6 7 8 10 18 19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outliers &amp; Influential Points</td>
<td>3a 3b 13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![AP Statistics](image_url)
WHERE ARE WE NOW?

Mike - Algebra 1, Algebra 2

- limited additional assessments
  - try for equal amounts of all standards
- all assessments equally weighted (eSchools+)
- frequent quizzes & unit tests
- generic scoring rubric
- score each question; average for standard score
WHERE ARE WE NOW?

Matt - Algebra 1
- limited additional assessments
  - try for equal amounts of all standards
- all assessments equally weighted (eSchools+)
- frequent quizzes & unit tests
- generic scoring rubric
- score each question; average for entire assessment; record A/B/C/D/F

<table>
<thead>
<tr>
<th>SCORE</th>
<th>Explanation of the Score:</th>
<th>What I want you to learn from the score:</th>
<th>Numerical Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Algebra &amp; Arithmetic is completely correct. The solution is complete.</td>
<td>I know the topic completely.</td>
<td>100</td>
</tr>
<tr>
<td>A</td>
<td>Algebra is correct. The solution is complete. There are minor arithmetic errors.</td>
<td>I know the topic.</td>
<td>95</td>
</tr>
<tr>
<td>B</td>
<td>Algebra is correct. There are calculation errors in the solution.</td>
<td>I know the topic but I made a calculation mistake.</td>
<td>85</td>
</tr>
<tr>
<td>C</td>
<td>Some minor Algebra errors are present. The solution is incomplete but on the “right track”.</td>
<td>I know some parts of the topic but I’m still learning parts of it.</td>
<td>75</td>
</tr>
<tr>
<td>D</td>
<td>Major Algebra error(s) are present. The solution is incomplete and incorrect.</td>
<td>I don’t really understand the topic thoroughly enough.</td>
<td>65</td>
</tr>
<tr>
<td>F</td>
<td>Almost no attempt was made to provide a solution.</td>
<td>I’ve seen the topic but I don’t know enough do anything.</td>
<td>50</td>
</tr>
</tbody>
</table>
WHAT ARE YOUR QUESTIONS?