THE REWARDS AND CHALLENGES OF STANDARDS BASED GRADING

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WHY SBG?

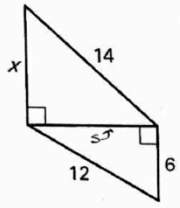
Name David Miller

Honors Geometry
Quiz: 7.1 – 7.2

38/50

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

1.



$s^2 + 6^2 = 12^2$

$s^2 + 36 = 144$

$s^2 = 108$

$s = 6\sqrt{3}$

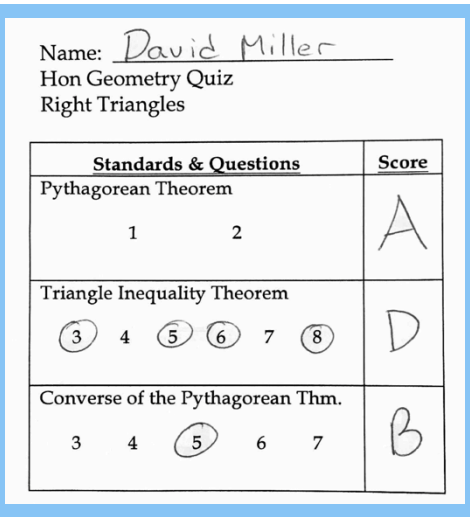
$x^2 + s^2 = 14^2$

$x^2 + 108 = 196$

$x^2 = 88$

$x = 2\sqrt{22}$

WHY SBG?



Name: David Miller
Hon Geometry Quiz
Right Triangles

Standards & Questions	Score
Pythagorean Theorem 1 2	A
Triangle Inequality Theorem (3) 4 (5) (6) 7 (8)	D
Converse of the Pythagorean Thm. 3 4 (5) 6 7	B

OBJECTIVES

- Why SBG?
- Share our journey
  - Successes & failures
  - Where we are now
- MetaGrading
  - Analyze your own grading practices

WHY DID WE MOVE TO SBG?

- Dissatisfaction with the point system
  - Disproportionate penalties for the same mistake
  - Penalizing students for non-assessed concepts
  - Point grubbing
- Your grade should reflect what you know
  - Not how many points you accumulated
- Chance to grade more qualitatively
  - Even though we're number people
  - Rubrics aren't just for the humanities anymore

WHY DID WE MOVE TO SBG?

- Better feedback for students
  - students gained clarity on what they know and where they need to improve
- More frequent and focused assessments
  - shorter assessments - 1 or 2 standards only
- Multiple assessments on the same standard
  - teacher driven OR student request

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

OUR JOURNEY

- Our transition year (’09-’10)
  - Algebra 1
- Progress, Participation, Performance
  - Focused assessments, but still point-based
- Rubric-based overall grade

	A = 95	B = 85	C = 75	D = 65	F = 55
Progress (30%) • improvement • consistency • willingness • perseverance [This category will be called “Miscellaneous” for the online grade book.]	☐ Consistent high achievement (above 90% level). -OR- ☐ Consistent improvement (each assessment is better than the previous one). ☐ Consistent perseverance on difficult concepts (even without high performance).	☐ Consistent medium-high achievement (above 80% level) -OR- ☐ Mostly consistent improvement (a general trend of improvement, but with some lower performance allowed). ☐ Mostly consistent perseverance on difficult concepts (often striving to succeed).	☐ Consistent medium achievement (above 70% level). -OR- ☐ No discernable improvement (each assessment is about the same as the previous one). ☐ Some perseverance on difficult concepts (often trying to maintain a medium level or performance)	☐ Consistent low achievement (above 60% level). -OR- ☐ Inconsistent progress (a general trend of poorer performance) ☐ Rare perseverance on difficult concepts (often not trying to be successful).	☐ Consistent very low achievement (below 60% level). -OR- ☐ Consistent lack of improvement (each assessment is worse than the previous one). ☐ No perseverance on difficult concepts.
Participation (30%) • homework • classwork • notes • discussions	☐ 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.	☐ More than 75% of homework completed. ☐ More than 75% of class notes taken. ☐ More than 75% of classwork completed. ☐ Often (6-8 times per week) asks questions and/or contributes meaningfully to discussions.	☐ More than 50% of homework completed. ☐ More than 50% of class notes taken. ☐ More than 50% of classwork completed. ☐ Sometimes (4-6 times per week) asks questions and/or contributes meaningfully to discussions.	☐ Less than 50% of homework completed. ☐ Less than 50% of class notes taken. ☐ Less than 50% of classwork completed. ☐ Rarely (2-4 times per week) asks questions and/or contributes meaningfully to discussions.	☐ Less than 10% of homework completed. ☐ Less than 10% of class notes taken. ☐ Less than 10% of classwork completed. ☐ Does not ask questions and/or contribute meaningfully to discussions (less than twice per week)
Performance (40%) • quizzes • tests • activities • projects	☐ Test scores average 90% – 100%. ☐ Quiz, activity & project scores average 80% – 100%.	☐ Test scores average 80% – 90%. ☐ Quiz, activity & project scores average 70% – 90%.	☐ Test scores average 70% – 80%. ☐ Quiz, activity & project scores average 60% – 80%.	☐ Test scores average 60% – 70%. ☐ Quiz, activity & project scores average 50% – 70%.	☐ Test scores average below 60%. ☐ Quiz, activity & project scores average below50%.

OUR JOURNEY

- Shift to Standards-Based (’10 & beyond)
  - Giving feedback on individual standards
  - No quiz or test grades
- Grade calculations
  - Most recent score only
  - Decaying average
  - Utilized ActiveGrade
- Give students ownership of scores
  - Additional assessments

WHAT REWARDS DID WE SEE?

- Opportunity to give higher quality feedback
- Grades more accurately reflect what students have learned
- Students talk less about points and more about what they know/don’t know
- Students engage in more focused relearning
- Students ask about topics not section numbers

WHAT CHALLENGES DID WE FACE?

- First scoring rubric was unsustainably complex
- Student buy-in / School culture
- Transparency for parents
- Explaining the grading process to parents/ students/other teachers
- Identifying and wording standards
- How to design and grade Unit Tests
- Creating additional assessments

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

5 (A)	4 (B)	3 (C)	2 (D)	1 (F)
Calculus, algebra & arithmetic is correct.	Calculus is mostly correct ; algebra / arithmetic errors.	Minor Calculus error(s) present.	Major Calculus error(s) present.	No significant attempt was made.
"I know the content."	**"I knows some of the content but have a few gaps."**	**"I know some of the content but I don't understand thoroughly."**	**"I've seen the content but I don't know enough do anything."**	**"I don't know the content."**

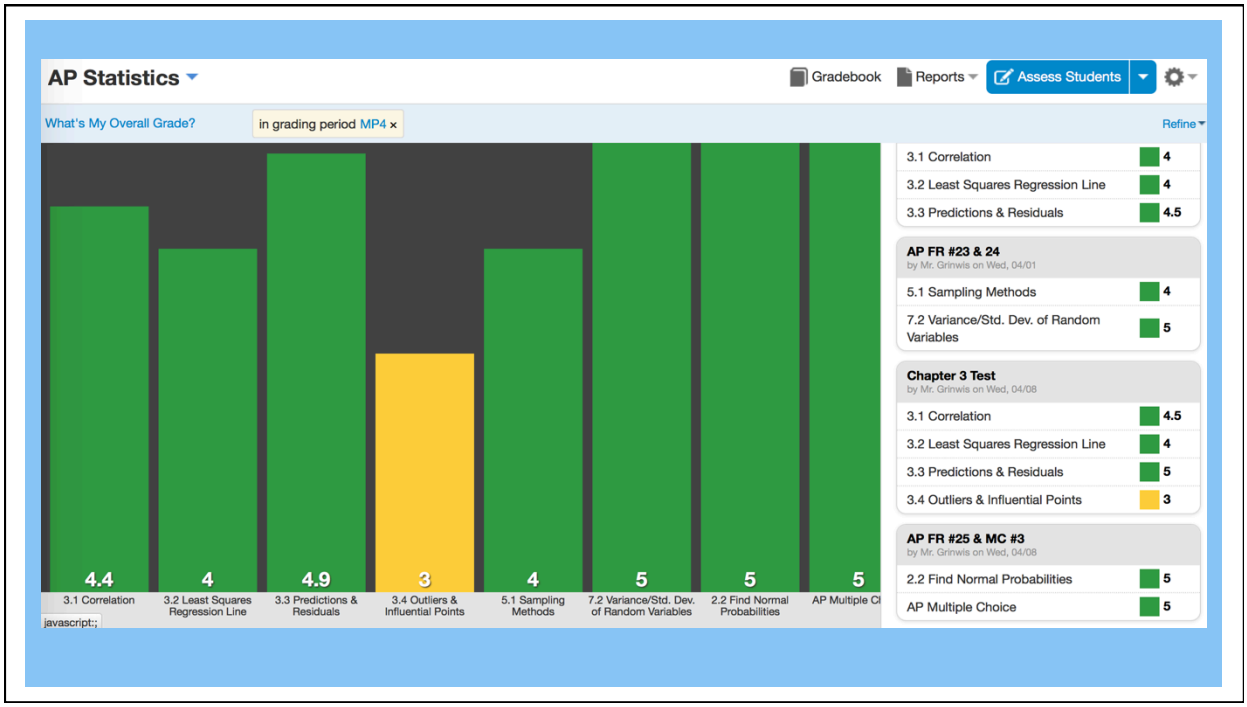
WHERE ARE WE NOW?

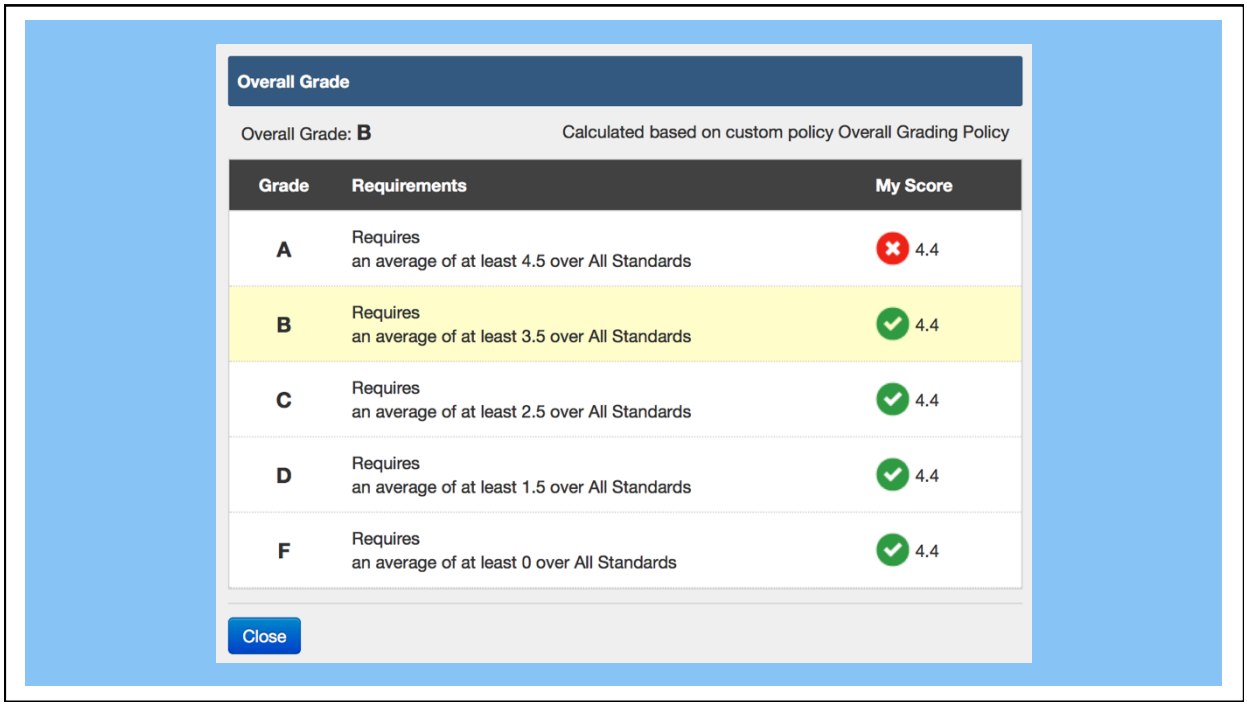
Matt - AP Statistics, Hon. Geometry

- 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

A (5)	B (4)	C (3)	D (2)	F (1)
Statistical Reasoning is correct. Solution is appropriate & complete.	Statistical Reasoning is mostly correct. Minor procedural errors or incomplete explanation.	Statistical error(s) present. Incorrect/ incomplete solution but reasonable foundation.	Major Statistical error(s) present. Solution is incomplete and incorrect.	No significant attempt was made.
"I know the content."	**"I knows some of the content but have a few gaps."**	**"I know some of the content but I don't understand thoroughly."**	**"I've seen the content but I don't know enough do anything."**	**"I don't know the content."**

Standards & Questions	**Score**
Correlation 1 4 11 12 14 15	
Least Squares Regression Line 2 5 9 16 17	
Predictions & Residuals 6 7 8 10 18 19	
Outliers & Influential Points 3a 3b 13	


AP Statistics
Gradebook
Reports
Assess Students
What's My Overall Grade?
in grading period MP4 ×
Refine
4.4
4
4.9
3
4
5
5
5
3.1 Correlation
3.2 Least Squares Regression Line
3.3 Predictions & Residuals
3.4 Outliers & Influential Points
5.1 Sampling Methods
7.2 Variance/Std. Dev. of Random Variables
2.2 Find Normal Probabilities
AP Multiple Cl
javascript:;
3.1 Correlation 4
3.2 Least Squares Regression Line 4
3.3 Predictions & Residuals 4.5
AP FR #23 & 24
by Mr. Grinwis on Wed, 04/01
5.1 Sampling Methods 4
7.2 Variance/Std. Dev. of Random Variables 5
Chapter 3 Test
by Mr. Grinwis on Wed, 04/08
3.1 Correlation 4.5
3.2 Least Squares Regression Line 4
3.3 Predictions & Residuals 5
3.4 Outliers & Influential Points 3
AP FR #25 & MC #3
by Mr. Grinwis on Wed, 04/08
2.2 Find Normal Probabilities 5
AP Multiple Choice 5


Overall Grade
Overall Grade: B
Calculated based on custom policy Overall Grading Policy
Grade
Requirements
My Score
A
Requires an average of at least 4.5 over All Standards
4.4
B
Requires an average of at least 3.5 over All Standards
4.4
C
Requires an average of at least 2.5 over All Standards
4.4
D
Requires an average of at least 1.5 over All Standards
4.4
F
Requires an average of at least 0 over All Standards
4.4
Close

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
- General 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

SCORE	Explanation of the Score:	**What I want you to learn from the score:**	Numerical Score
A+	Algebra & Arithmetic is completely correct. The solution is complete.	**I know the topic completely.**	100
A	Algebra is correct. The solution is complete. There are minor arithmetic errors.	**I know the topic.**	95
B	Algebra is correct. There are calculation errors in the solution.	**I know the topic but I made a calculation mistake.**	85
C	Some minor Algebra errors are present. The solution is incomplete but on the "right track".	**I know some parts of the topic but I'm still learning parts of it.**	75
D	Major Algebra error(s) are present. The solution is incomplete and incorrect.	**I don't really understand the topic thoroughly enough.**	65
F	Almost no attempt was made to provide a solution.	**I've seen the topic but I don't know enough do anything.**	50

METAGRADING

- Grade your own grading practices
  - What do your students take away from their grades?
  - How do your students view grades?
- How to begin?
  - Start small
  - Topics over textbook sections
  - Use more focused assessments
  - Don't fear the rubric

WHAT ARE YOUR QUESTIONS?

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