Tulare County Office of Education

Jim Vidak, County Superintendent of Schools

Using SBAC Tools to Support Powerful Instruction

SBAC Math Handout

Smarter Balanced Assessment Consortium

Grade 8

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Grade 8 SBAC Math Assessment Snapshot

Unit	Claim 1: Concepts and Procedures 17-20 Total Questions -At least 7 CAT items will be DOK 2 or higher		Claim 2: Problem Solving	Claim 4: Modeling and Data Analysis 8-10 Total Questions -At least 2 CAT items will be DOK 3 or higher -80% of Claim 2 & 4 comes from Standards below	Claim 3: Communicating Reasoning 8-10 Questions -At least 2 CAT items will be DOK 3 or higher. -80% of Claim 3 comes from standards below.
	Target C (Priority) **8.EE.B** Understand the connections between proportional relationship, lines, and linear equations. 8.EE.5, 6	5-6	8.EE.B	8.EE.B	8.EE.5 8.EE.6
	Target D (Priority) **8.EE.C** Analyze and solve linear equations and pairs of simultaneous linear equations 8.EE.7, 8		8.EE.C	8.EE.C	8.EE.7a 8.EE.7b 8.EE.8a
	Target B (Priority) **8.EE.A** Work with radicals and integer exponents 8.EE.1, 2, 3, 4	5-6		8.EE.3 8.EE.4	8.EE.1
	Target E (Priority) **8.F.A** Define, evaluate, and compare functions. 8.F.1, 2, 3		8.F.A		8.F.1 8.F.2 8.F.3
	Target G (Priority) **8.G.A** Understand congruence and similarity using physical models, transparencies, or geometry software. 8.G.1, 2, 3, 4, 5		8.G.A		8.G.1 8.G.2 8.G.4 8.G.5
	Target F (Priority) **8.F.B** Use functions to model relationships between quantities. 8.F.4, 5	2-3	8.F.B	8.F.B	
	Target H (Priority) **8.G.B** Understand and apply the Pythagorean Theorem 8.G.6, 7, 8		8.G.B	8.G.B	8.G.6 8.G.8
	Target A (Supporting) **8.NS.A** Know that there are numbers that are not rational, and approximate them by rational numbers. 8.NS.1, 2	4-5			
	Target I (Supporting) **8.G.9** Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. 8.G.9		8.G.C	8.G.C	
	Target J (Supporting) **8.SP.A** Investigate patterns of association in bivariate data. 8.SP.1, 2, 3, 4			8.SP.A	

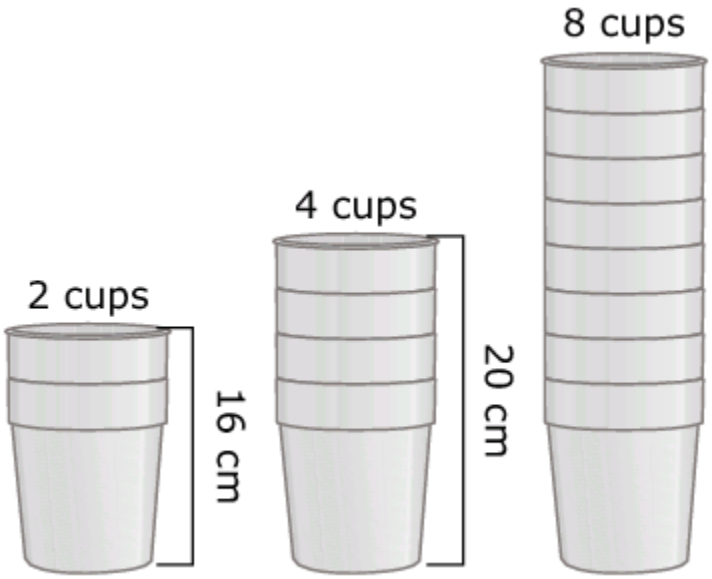
	Item	Claim (circle one)
A	Select **all** situations that can be modeled by the linear equation $y = 2x + 5$. A. There are initially 5 rabbits on a farm. Each month thereafter the number of rabbits is 2 times the number in the month before. How many rabbits are there after x months? B. Joe earns \$2 for each magazine sale. He also earns \$5 for each hour he spends trying to sell magazines. How much money will he earn after selling magazines for x hours? C. Sandy charges \$2 an hour for babysitting. Parents are charged \$5 if they arrive home later than scheduled. Assuming the parents arrived home late, how much money does she earn for x hours? D. The Reader's Club is a members-only audio book rental store. There is a \$2 sign-up fee and a \$5 per audio book rental fee. How much would Laney owe on her first visit if she becomes a member and rents x audio books? E. Andre is saving money for a new CD player. He began saving with a \$5 gift and will continue to save \$2 each week. How much money will he have saved at the end of x weeks?	1 2 3 4
B	**Example Stem:** A tree that is 8 feet tall is growing at a rate of 1 foot each year. A tree that is 10 feet tall is growing at a rate of $\frac{1}{2}$ foot each year. Enter the number of years it will take the two trees to reach the same height.	1 2 3 4
C	Helga wants to have a lot of helium-filled balloons at her party. • The helium tank costs \$58 to rent. • Balloons cost \$0.29 each. • She wants to have 5 helium-filled balloons for each party guest. Enter an equation that represents the total cost, C, in dollars of the helium-filled balloons for n party guests.	1 2 3 4
D	A car is traveling at a constant speed and drove 75 miles in 1.5 hours. One mile is approximately 1.6 kilometers. Approximately how fast is the car traveling in kilometers per hour? Explain or show clear steps for how you determined your answer.	1 2 3 4

Mathematics

Item	DOK Circle one	Comments
#1	1 2 3 4	
#2	1 2 3 4	
#3	1 2 3 4	
#4	1 2 3 4	
#5	1 2 3 4	
#6	1 2 3 4	
#7	1 2 3 4	
#8	1 2 3 4	

Stacks of Cups

Your science classroom uses cups for many experiments. Your teacher ordered lots of cups from a catalog. The catalog is not very good. It has the following picture, but no other useful information.



Your teacher wants you to help her get organized for when the cups arrive next week. Using only the information shown in the picture, she asks you to figure out some other specific measurements.

1

How tall, in cm, is the stack of 8 cups?

_____ cm

2

How tall, in cm, is 1 cup? Explain how you determined the height of 1 cup.

3

Your teacher thinks that instead of having to figure out these stacks each time, it would be useful to understand the general relationship.

Write an equation expressing the relationship between the height of the stack and the number of cups in the stack.

Let h represent the height of the stack, in cm, and n the number of cups in the stack.

4

The catalog is advertising a stack of these cups that is 95 cm tall. Lori says, "That must be a misprint because a stack of that height is not possible."

Do you agree or disagree with Lori? Explain your reasoning.

5

Your class wants to sell School Spirit Cups with your school logo on them. Your teacher wants you to design this new cup such that a stack of 10 cups will be 125 cm tall.

Describe key measurements of the School Spirit Cups and explain how they will meet the required specifications.

1

How tall, in cm, is the stack of 8 cups?

_____ cm

#1 Gridded response – 1 point

Item	Claim	Domain	Target	DOK	Content	MP	Key
#1	2	EE	2D	2	6.EE.B.7	2	28

Rubric:
1 point: Student responds with a value of 28, or equivalent.

0 points: All other responses

Mathematics Interim Assessment Blocks

Grade 3	Grade 4	Grade 5
Operations and Algebraic Thinking	Operations and Algebraic Thinking	Operations and Algebraic Thinking
Number and Operations – Fractions	Number and Operations – Fractions	Number and Operations – Fractions
Measurement and Data	Measurement and Data	Measurement and Data
Number and Operations in Base Ten	Number and Operations in Base Ten	Number and Operations in Base Ten
Geometry*	Geometry	Geometry
Mathematics Performance Task	Mathematics Performance Task	Mathematics Performance Task

Grade 6	Grade 7	Grade 8
Ratios and Proportional Relationships	Ratio and Proportional Relationships	Expressions & Equations I
The Number System	The Number System	Expressions & Equations II (with Prob/Stat)
Expressions and Equations	Expressions and Equations	The Number System*
Geometry	Geometry	Functions
Statistics and Probability	Statistics and Probability	Geometry
Mathematics Performance Task	Mathematics Performance Task	Mathematics Performance Task

High School	
Algebra and Functions I - Linear Functions, Equations, and Inequalities	Geometry Congruence*
Algebra and Functions II - Quadratic Functions, Equations, and Inequalities	Geometry Measurement and Modeling*
Geometry and Right Triangle Trigonometry	Interpreting Functions*
Statistics and Probability	Number and Quantity*
Seeing Structure in Expressions/Polynomial Expressions*	Mathematics Performance Task

*** IAB is new for 2017–18**