Smarter Balanced Assessment Consortium:

Mathematics Practice Test Scoring Guide
Grade 6 Braille Version

08/01/2016

About the Practice Test Scoring Guides

The Smarter Balanced Mathematics Practice Test Scoring Guides provide details about the items, student response types, correct responses, and related scoring considerations for the Smarter Balanced Practice Test items. The items selected for the Practice Test are designed to reflect

- a broad coverage of claims and targets that closely mirror the summative blueprint.

- a range of student response types.

- a breadth of difficulty levels across the items, ranging from easier to more difficult items.

It is important to note that all student response types are not fully represented on every practice test, but a distribution can be observed across all the practice tests. The items presented are reflective of refinements and adjustments to language based on pilot test results and expert recommendations from both content and accessibility perspectives.

Within this guide, each item is presented with the following information[1]:

- Claim: statement derived from evidence about college and career readiness

- Domain: a broad content area that contains related targets and standards (i.e., Geometry)

- Target: statement that bridges the content standards and the assessment evidence that supports the claim

- Depth of Knowledge (DOK): measure of complexity considering the student's cognitive process in response to an item. There are four DOK levels, a 4 being the highest level

- Common Core State Standards for Mathematical Content (CCSS-MC)

- Common Core State Standards for Mathematical Practice (CCSS-MP)

- Static presentation of the item: static presentation of item from test administration system

- Static presentation of student response field(s): static presentation of response field from test administration system

- Answer key or exemplar: expected student response or example response from score point value

- Rubric and applicable score points for each item: score point representations for student responses

The following items are representative of the kinds of items that students can expect to experience when taking the Computer Adaptive Test (CAT) portion of the summative assessment for grade 6. A separate document is available that provides a grade 6 sample performance task and scoring guide.

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[1] Most of these terms (Claim, Domain, Target, DOK, etc.) are defined in various other Smarter Balanced documents, as well as the Common Core State Standards for Mathematics. Refer to the *Content Specifications for the Summative Assessment of the Common Core State Standards for Mathematics* for more information.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#1	1	NS	D	2	6.NS.C.8	N/A	59

This grid shows the location of three points.
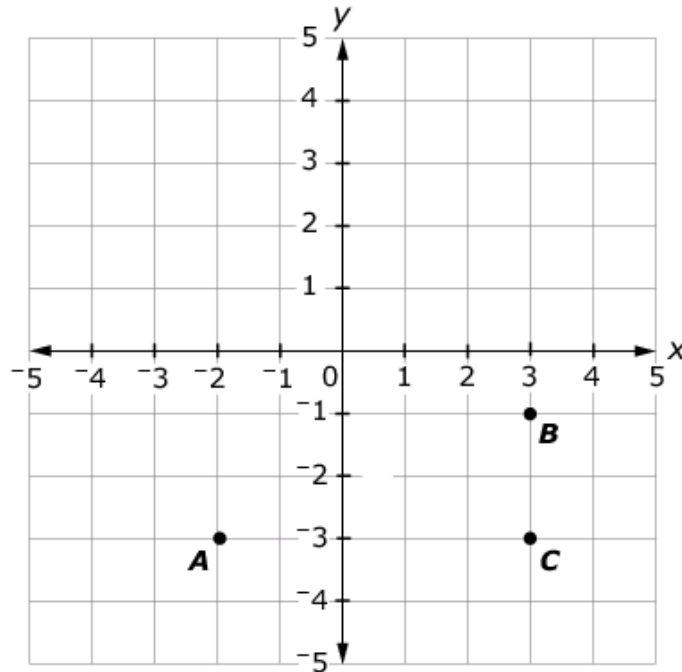
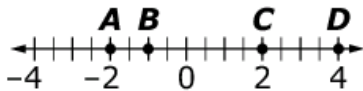Enter the distance, in units, between point A and point C.

Key: 5

Rubric: (1 point) The student enters the correct distance.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#2	1	NS	D	1	6.NS.C.6c	N/A	61

Consider the points plotted on the number line.

Select True or False for each statement about the points on the number line.

	True	False
The value of Point *A* is **less** than -3.	☐	☐
The value of Point *B* is **greater** than the value of point *A*.	☐	☐
The value of Point *D* is -4.	☐	☐

Key: F, T, F

Rubric: (1 point) The student correctly identifies each statement as true or false.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#3	1	NS	B	2	6.NS.A.1	N/A	50

A recipe requires $\frac{1}{2}$ cup of flour for every batch of cookies. How many full batches of cookies can be made with $5\frac{1}{2}$ cups of flour?

1	2	3
4	5	6
7	8	9
0	.	-

Key: 11

Rubric: (1 point) The student enters the correct number of full batches of cookies.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#4	1	EE	F	2	6.EE.B.5	N/A	46

Consider the inequality $x > -1.5$.

Determine whether each value of x makes this inequality true. Select Yes or No for each value.

	Yes	No
$-2\frac{1}{2}$	☐	☐
15	☐	☐
4	☐	☐
-2	☐	☐
0.2	☐	☐

Exemplar: (shown below)

	Yes	No
$-2\frac{1}{2}$	☐	☑
15	☑	☐
4	☑	☐
-2	☐	☑
0.2	☑	☐

Rubric: (1 point) The student correctly classifies each value.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#5	1	EE	E	1	6.EE.A.3	N/A	13

Consider this expression: $7(10a + 3b)$

Enter an expression that shows the **sum of exactly two terms** that is equivalent to $7(10a + 3b)$.

Key: $70a + 21b$ or $70a + 21b$

Rubric: (1 point) The student enters a correct expression.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#6	1	NS	C	1	6.NS.B.2	N/A	49

Divide.

$21,900 \div 25$

Enter the exact quotient.

Key: 876

Rubric: (1 point) The student enters the correct quotient.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 2 Points	Percent Receiving 1 Point
#7	1	EE	F	2	6.EE.B.7	N/A	28	35

Paul could play 16 songs on his guitar. He learns some new songs. Now he can play 23 songs.

In the first box, enter an **equation** to represent the number of new songs, *s*, that Paul learns.

In the second box, enter the **number** of new songs represented by *s* in this situation.

Equation [   ]

Number of New Songs [   ]

Key: $16 + s = 23$; 7

Rubric: (2 points) Student enters a correct equation (e.g., $16 + s = 23$ or an equivalent equation) and the correct solution (e.g., 7 or equivalent).

(1 point) Students enters the correct equation or the correct solution.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#8	1	EE	E	1	6.EE.A.3	N/A	22

Select all of the expressions that are equivalent to $4(5x + 2y)$.

☐ $9x + 6y$

☐ $4(5x) + 4(2y)$

☐ $20x + 8y$

☐ $20x + 2y$

☐ $4(7xy)$

Exemplar: (shown below)

☐ $9x + 6y$

☑ $4(5x) + 4(2y)$

☑ $20x + 8y$

☐ $20x + 2y$

☐ $4(7xy)$

Rubric: (1 point) The student selects the equivalent expressions.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#9	1	RP	A	2	6.RP.A.3a	N/A	61

The table shows the relationship between the amounts of ginger ale and fruit juice needed to make punch.

Fill in the missing values to complete the table.

Ginger Ale (L)	Fruit Juice (oz)
	12
3	18
5	30
9	

Key: 2, 54

Rubric: (1 point) The student enters the correct values into the table.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#10	2	RP	A	2	6.RP.A.3	4	60

Allison is saving to buy a $500 bicycle by working during summer vacation.

- The job pays her $8 for every 1 hour worked.
- Allison works exactly 20 hours each week.

If she works for 4 weeks and buys the bicycle, how much money will she have left over?

Key: 140

Rubric: (1 point) The student enters the correct amount of money.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#11	3	RP	F	2	6.RP.A.3	2, 3	45

Sam and Tyrone each build model cars. Altogether, Sam and Tyrone have built 42 model cars. The ratio of cars Sam has built to cars Tyrone has built is represented by the tape diagram shown.

Sam

Tyrone

Enter the number of cars represented by each square in the tape diagram.

Key: 6

Rubric: (1 point) The student enters the correct number of cars.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#12	1	EE	F	1	6.EE.B.7	N/A	61

Select **all** equations that have $n = 6$ as a solution.

☐ $2 + n = 6$

☐ $n + 6 = 12$

☐ $4 \cdot n = 24$
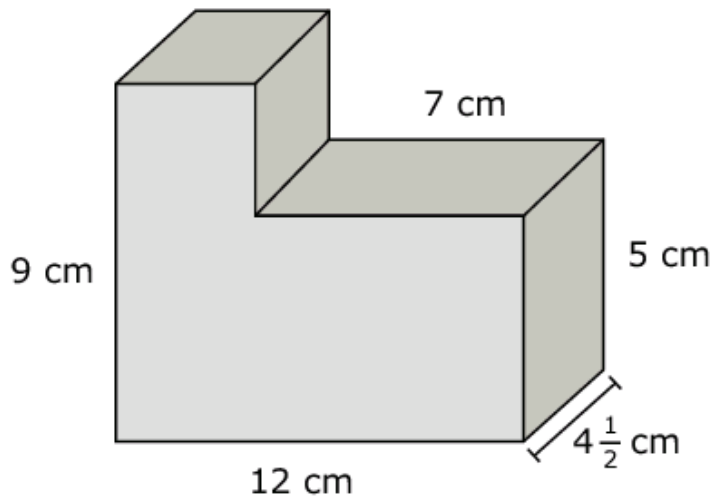
☐ $n \cdot 3 = 2$

Exemplar: (shown below)

☐ $2 + n = 6$

☑ $n + 6 = 12$

☑ $4 \cdot n = 24$

☐ $n \cdot 3 = 2$

Rubric: (1 point) The student selects the correct equations.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#13	1	G	H	2	6.G.A.2	6	12

This solid was created by joining two right rectangular prisms.

Enter the volume of the solid in cubic centimeters.

Key: 360

Rubric: (1 point) The student enters the correct volume.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#14	1	EE	G	2	6.EE.9	N/A	36

Raymond wants to know the costs of buying different numbers of songs for his MP3 player. The cost of each song is the same.

- Let s represent the possible number of songs Raymond could buy.
- Let d represent the amount of money, in dollars, Raymond would need to buy the songs.

Fill in the table for all missing values of s and d.

Number of Songs s	Amount of Money ($) d
2	2.58
	5.16
7	
11	
	21.93

Exemplar: (shown at right)

Rubric: (1 point) The student fills in correct values for s and d.

Number of Songs s	Amount of Money ($) d
2	2.58
4	5.16
7	9.03
11	14.19
17	21.93

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#15	1	RP	A	2	6.RP.A.3c	N/A	36

Ethan correctly answers 80% of the total questions on his history test. He correctly answers 32 questions.

Enter the number of questions on Ethan's history test.

Key: 40

Rubric: (1 point) The student enters the correct number of questions.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#16	3	NS	A	3	6.NS.A.1	2, 7	7

Julia needs to make a box in the shape of a rectangular prism with a height of 3 inches and a volume of 243 cubic inches. The dimensions, in inches, must be whole numbers greater than 1.

Julia claims that the length and width of the box must be equal.

Part A
What dimensions would support Julia's claim about the length and width of the box? Enter your answer in the boxes labeled Part A.

Part B
What dimensions would not support Julia's claim about the length and width of the box? Enter your answer in the boxes labeled Part B.

Part A Length [   ]

Part A Width [   ]

Part B Length [   ]

Part B Width [   ]

1	2	3
4	5	6
7	8	9
0	.	-

Key: 9, 9 and 3, 27 (order doesn't matter)

Rubric: (1 point) The student enters correct values in all four response boxes.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#17	3	NS	D	2	6.NS.C.7	2, 3	26

David claims, "If the absolute value of x is greater than the absolute value of y, then x is greater than y."

Determine whether each set of values for x and y supports or does not support David's claim.

	Supports	**Does not support**
$x = -15, y = 14$	☐	☐
$x = -0.9, y = -0.8$	☐	☐
$x = \dfrac{1}{2}, y = \dfrac{1}{3}$	☐	☐

Key: D, D, S

Rubric: (1 point) The student correctly identifies each set of values as "supports" (S) or "does not support" (D) David's claim.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#18	1	SP	I	2	6.SP.A.2, 6.SP.B.5	N/A	7

Alyssa surveyed her classmates to determine how many miles they live from the school. The results are shown in the histogram below.

Distance from School
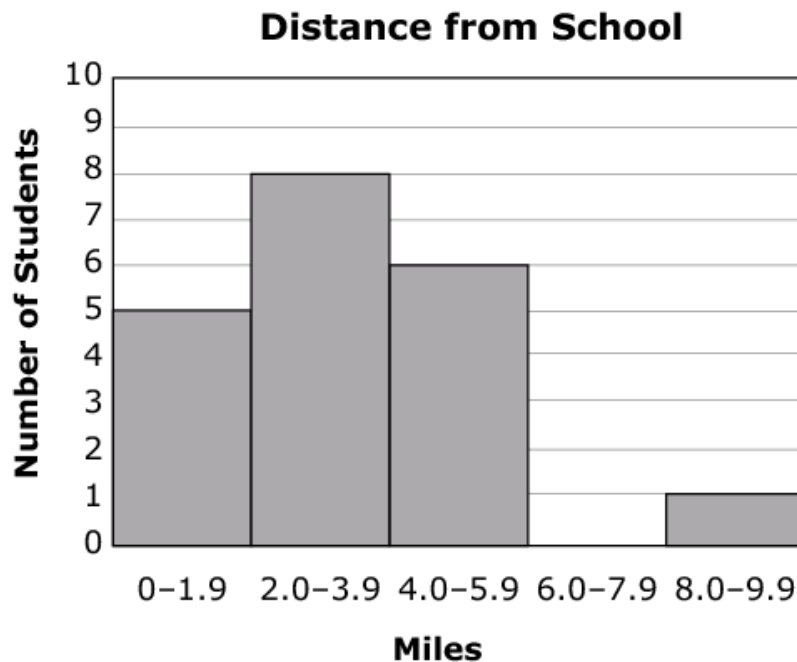
Determine whether each statement about the data is true. Select True or False for each statement.

	True	False
The shape of the data is skewed to the right.	☐	☐
The median of the data values is between 4.0 and 5.9 miles.	☐	☐
The interquartile range of the data values is greater than 6.0.	☐	☐

Key: T, F, F

Rubric: (1 point) The student correctly identifies the true and false statements.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#19	1	RP	A	2	6.RP.A.3b	N/A	26

A bus travels 36 miles in 45 minutes.

Enter the number of miles the bus travels in 60 minutes at this rate.

Key: 48

Rubric: (1 point) The student enters the correct number of miles.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#20	2	RP	C	2	6.RP.A	6	23

A factory makes 1,200 shirts every 6 hours. The factory makes shirts for 9 hours each workday.
Enter the **fewest** number of workdays the factory will need to make 12,600 shirts.

1	2	3
4	5	6
7	8	9
0	.	-

Key: 7

Rubric: (1 point) The student enters the correct number of days.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#21	4	EE, G	E	3	6.EE.A.3, 6.G.A.1	3	6

Jeremiah planted tulips and lilies in a field with a width of 5.5 meters. The field of flowers is shown.

Area of Flowers

5.5 m
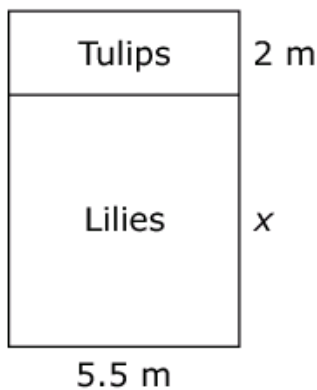
Identify each equation that could be used to find the area, in square meters, of the field of flowers for any length x, in meters.

☐ $A = x^2(5.5)$

☐ $A = 2x + 5.5$

☐ $A = 5.5x + 11$

☐ $A = 5.5(x + 2)$

☐ $A = x + 2 + 5.5$

Key: C and D

Rubric: (1 point) The student identifies the correct equations.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#22	4	RP	A	2	6.RP.A.3b	2, 4	19

Vicki bought some items from the store. The table shows the store price for these items.

Item	Store Price
Potato salad	$2.25 per $1\frac{1}{2}$ pounds
Ham	$2.00 per $\frac{1}{2}$ pound
Cheese	$0.60 per $\frac{1}{4}$ pound
Turkey	$3.50 per pound
Shrimp salad	$5.50 per pound

Vicki spent between $18 and $20. Which combinations could she have purchased? Select **all** that apply.

☐　4 pounds of turkey, 1 pound of ham, and $\frac{1}{2}$ pound of shrimp salad

☐　$1\frac{1}{2}$ pounds of cheese, 2 pounds of ham, and $1\frac{1}{2}$ pounds of shrimp salad

☐　$3\frac{1}{2}$ pounds of potato salad, $\frac{3}{4}$ pound of ham, 1 pound of cheese, and 2 pounds of turkey

☐　2 pounds of shrimp salad, $\frac{1}{2}$ pound of ham, 1 pound of turkey, and 2 pounds of potato salad

Key: B and D

Rubric: (1 point) The student selects the correct combinations.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#23	2	G	A	2	6.G.A.2	1,5,7	15

Cube-shaped boxes of tissue are shipped to stores in containers. The containers are rectangular prisms.

- The edges of each tissue box measure 6.5 inches.

- The dimensions of the shipping container are 19.5 inches by 39 inches by 19.5 inches.
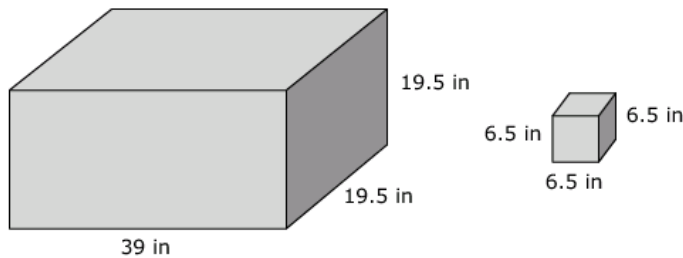
What is the greatest number of tissue boxes that will fit into one shipping container?

Key: 54

Rubric: (1 point) The student correctly determines the number of 6.5 by 6.5 by 6.5 tissue boxes the shipping container can hold.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#24	3	NF	F	3	5.NF.C.7	2, 7	41

Enter the lowest whole number in the numerator to make the comparison $\frac{\square}{5} > \frac{1}{4}$ true.

Key: 2

Rubric: (1 point) The student identifies the lowest whole number to make the comparison true.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 2 Points	Percent Receiving 1 Point
#25	3	RP	E	2	6.RP.A.3	1, 3	24	23

Toni made a table that shows a relationship between the total number of apples and the number of boxes of apples. Each box has the same number of apples. Toni made an error in one row.
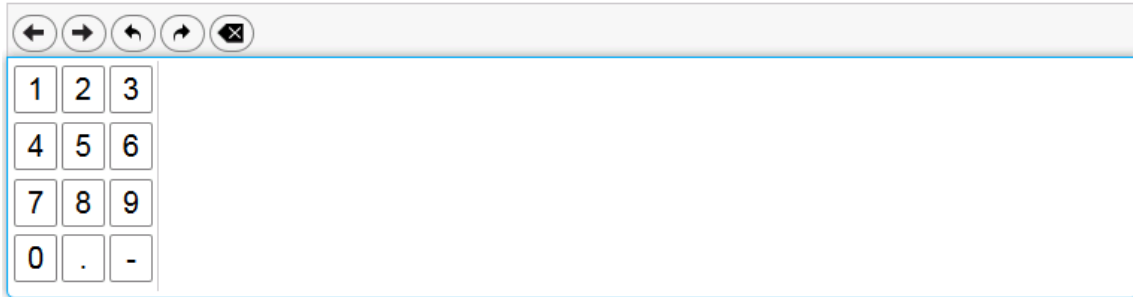
Toni's Table

Row Number	Number of Apples	Number of Boxes
1	15	2
2	75	5
3	105	7
4	150	10
5	180	12

Part A: Which row contains Toni's error? Enter the row number in the first response box.

Part B: What is the correct **number of apples** for the row you selected? Enter your answer in the second response box.

Part A: [   ]

Part B: [   ]

1	2	3
4	5	6
7	8	9
0	.	-

Key: Part A: 1

Part B: 30 (or any number equivalent to 30)

Rubric: (2 points) Student enters 1 in the first response box and 30 in the second response box.

(1 point) Student enters 1 in the first response box or 30 in the second response box.

(1 point) Student enters 30 in the first response box and 1 in the second response box.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#26	1	RP	A	1	6.RP.A.1	N/A	21

A quiz contains history and geography questions. The ratio of history questions to total questions is $4:5$.

Select **all** the statements that are true about the quiz.

☐ The ratio of total questions to history questions is $5:4$.

☐ The ratio of history questions to geography questions is $4:1$.

☐ There is 1 more history question than geography questions.

Exemplar: (shown below)

☑ The ratio of total questions to history questions is $5:4$.

☑ The ratio of history questions to geography questions is $4:1$.

☐ There is 1 more history question than geography questions.

Rubric: (1 point) The student correctly identifies the true statements.

Item	Claim	Domain	Target	DOK	CCSS-MC	CCSS-MP	Percent Receiving 1 Point
#27	3	EE	B	2	6.EE.A.1	3, 7	29

The expressions $4(4^2)(8 \cdot 2)$ and 4^5 are equivalent.

Show that the two expressions are equivalent. Describe the steps that can be applied to $4(4^2)(8 \cdot 2)$ to create the equivalent expression 4^5.

Type your answer in the space provided.

Exemplar: $4^2 = 4 \times 4$ and $(8 \times 2) = (4 \times 2 \times 2) = (4 \times 4)$;

therefore, $4(4^2)(8 \times 2) = 4 \times (4 \times 4) \times (4 \times 4) = 4 \times 4 \times 4 \times 4 \times 4 = 4^5$

Rubric: (1 point) The student describes steps with sufficient detail to show that the two expressions are equivalent.