



Smarter Balanced Assessment Consortium:

Practice Test Scoring Guide Grade 5 Mathematics

05/14/2014

*Developed and published by CTB McGraw-Hill Education LLC
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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.
- a sample of performance tasks with open-ended response types that allow students to demonstrate knowledge related to critical thinking and application.

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 information¹:

- Claim
- Domain
- Target²
- Depth of Knowledge (DOK)
- Common Core State Standards for Mathematical Content (CONTENT)
- Common Core State Standards for Mathematical Practice (MP)
- Answer key or exemplar
- Static presentation of the item
- Static presentation of student response field(s)
- Rubric and applicable score points for each item

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 5. A separate document is available that provides a Grade 5 sample performance task and scoring guide.

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.

² When more than one target is presented, the first one listed is considered the primary target for the item.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#1	1	NBT	C	1	5.NBT.A.2	N/A	C

623

Which number is equal to 10^4 ?

- (A) 100
- (B) 1,000
- (C) 10,000
- (D) 100,000

Key: C

Rubric: (1 point) Student selects the correct number.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#2	1	NBT	D	1	5.NBT.B.6	N/A	125

1781



Enter the quotient.

$$3125 \div 25$$

←
→
↶
↷
✖

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: 125





Rubric: (1 point) Student enters the correct quotient.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#3	1	NF	F	1	5.NF.B.4	N/A	C

1891



Which fraction model best represents $4 \times \frac{2}{3}$?

- (A) 
- (B) 
- (C) 
- (D) 

Key: C

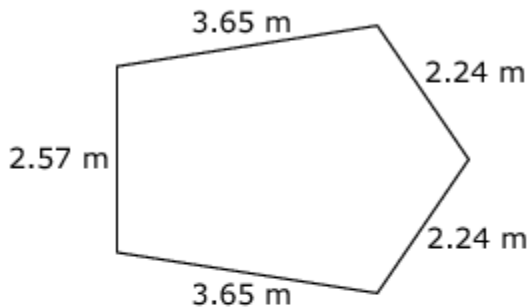
Rubric: (1 point) Student selects the correct fraction model.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#4	2	MD, NBT	A	2	5.MD.A.1, 5.NBT.B.7	2	1435

1954



Use this pentagon to solve the problem.



Enter the perimeter, in **centimeters**, of the pentagon.

←
→
↶
↷
✖

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: 1435

Rubric: (2 points) Student enters the correct perimeter in centimeters.

(1 point) Student correctly adds decimals to the hundredths but does not convert to centimeters (14.35 OR 14350 OR 1.435 OR any conversion that includes the digits 1435 including equivalents).

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#5	1	NBT	D	1	5.NBT.B.5	N/A	135616

1782

Enter the product.

$$4238 \times 32$$



The calculator interface includes a top row of navigation buttons: left arrow, right arrow, undo, redo, and a clear button (X). Below these is a numeric keypad with buttons for digits 1-9, 0, a decimal point, and a fraction template button.

Key: 135616**Rubric:** (1 point) Student enters the correct product.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#6	2	NBT	C	2	5.NBT.B.7	2	B

2023

Connor is buying tickets to a concert. The concert he and his friends want to see costs \$4.75 per ticket. Connor has \$26.00 total.

What is the **greatest** number of tickets Connor can buy?

- (A) 4
- (B) 5
- (C) 6
- (D) 7

Key: B

Rubric: (1 point) Student selects the correct number of tickets.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#7	1	NF	E	2	5.NF.A.2	N/A	D

2078

Jen measured the growth of a sunflower.

- In week one, it grew $2\frac{1}{2}$ inches.
- In week two, it grew $2\frac{3}{4}$ inches.
- In week three, it grew $3\frac{1}{4}$ inches.

How much did the sunflower grow over all three weeks?

- Ⓐ $5\frac{3}{4}$ in
- Ⓑ $7\frac{1}{2}$ in
- Ⓒ 8 in
- Ⓓ $8\frac{1}{2}$ in

Key: D

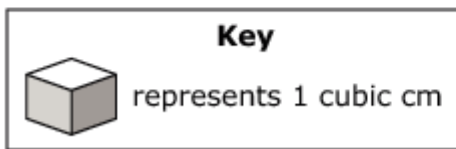
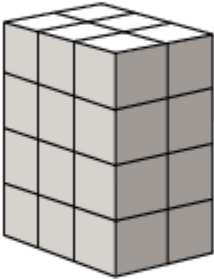
Rubric: (1 point) Student selects the correct growth of the sunflower.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#8	1	MD	I	2	5.MD.C.4, 5.MD.C.3	N/A	24

1895



The rectangular prism shown has 4 layers with 6 cubes in each layer.



Enter the volume, in cubic centimeters, of the rectangular prism.

←
→
↶
↷
✕

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: 24

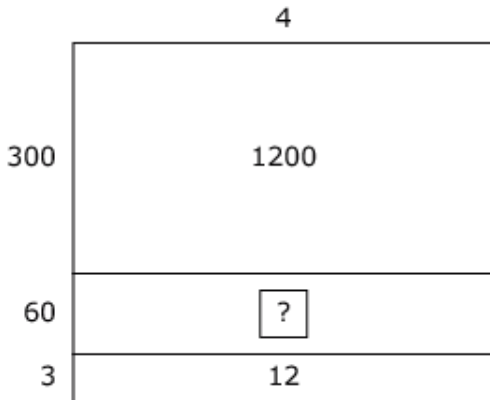
Rubric: (1 point) Student enters the correct volume.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#9	3	NBT	A	3	5.NBT.B.6	1, 3	D

1890



Jasmine solves the equation $\square \div 4 = 363$ using this area model.



Which statement explains how Jasmine should solve for the missing number in the model?

- (A) Jasmine should divide 60 by 4.
- (B) Jasmine should divide 1200 by 12.
- (C) Jasmine should multiply 3 times 60.
- (D) Jasmine should multiply 4 times 60.

Key: D

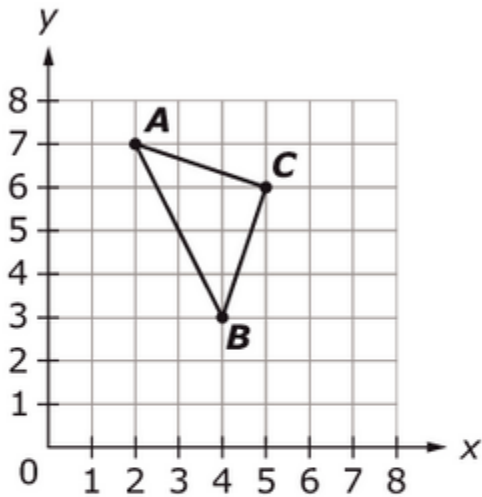
Rubric: (1 point) Student selects the correct statement.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#10	1	G	J	1	5.G.A.1	N/A	A

2047



Triangle ABC is graphed in the coordinate plane.



Which set of ordered pairs shows the coordinates of points A , B , and C ?

- (A) $A(2, 7)$, $B(4, 3)$, $C(5, 6)$
- (B) $A(2, 7)$, $B(5, 6)$, $C(4, 3)$
- (C) $A(7, 2)$, $B(3, 4)$, $C(6, 5)$
- (D) $A(7, 2)$, $B(4, 3)$, $C(5, 6)$

Key: A

Rubric: (1 point) Student selects the correct set of ordered pairs.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#11	1	NBT	C	2	5.NBT.A.3b	N/A	D

1780

Which number makes this inequality true?

$$4253.647 > \square$$

- (A) 4253.664
- (B) 4253.655
- (C) 4253.649
- (D) 4253.638

Key: D

Rubric: (1 point) Student selects the correct number.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#12	1	OA	A	2	5.OA.A.2	N/A	See exemplar

628



Tyler is 8 years old. His sister Olivia is 4 years less than twice his age.

Write a numerical expression for Olivia's age.

← → ↶ ↷ ✖

1	2	3	+	-	×	÷
4	5	6	<	=	>	
7	8	9	\square^{\square}	()		
0	.	$\frac{\square}{\square}$				

Key: $(2 \times 8) - 4$ or equivalent expression

Rubric: (1 point) Student enters a correct expression.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#13	3	NF	B	3	5.NF.B.4a	3	See exemplar

1928



Look at the fraction model shown.



The shaded area represents $\frac{3}{2}$.

Drag rectangles to the answer space to construct a model that represents $3 \times \frac{3}{2}$.

A

B

C

D

Delete ✕

Fraction Model



Answer Space



Exemplar:

Student drags any combination of shapes equivalent to:
The example shown is just one of the possible combinations.



Rubric: (1 point) Student correctly drags a combination of shapes that have an area equal to $\frac{9}{2}$.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#14	1	MD	G	1	5.MD.A.1	N/A	64

1952



Susan has 4 gallons of juice. How many cups of juice does she have?

← → ↶ ↷ ✖

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: 64

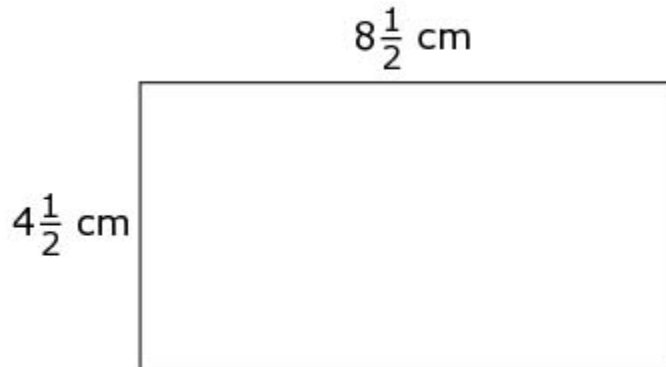
Rubric: (1 point) Student enters the correct number of cups of juice.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#15	1	NF	F	2	5.NF.B.4b	N/A	C

1949



Use this rectangle to solve the problem.



What is the area, in square centimeters, of the rectangle?

- (A) $32\frac{1}{4}$
- (B) $32\frac{1}{2}$
- (C) $38\frac{1}{4}$
- (D) $38\frac{1}{2}$

Key: C

Rubric: (1 point) Student selects the correct area.

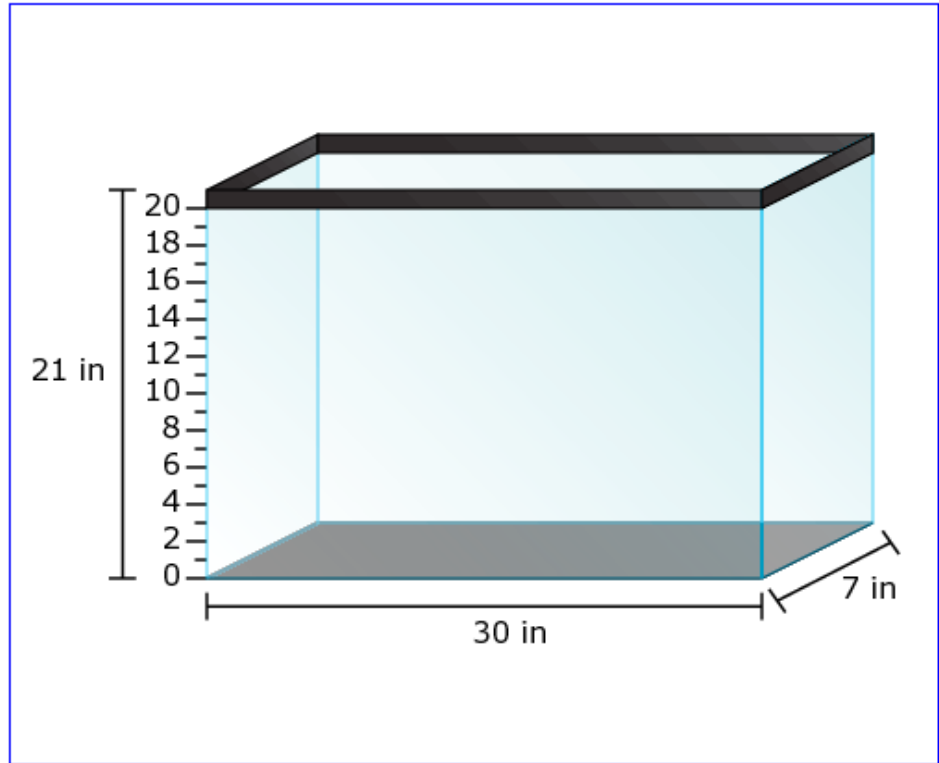
Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#16	1	MD	I	2	5.MD.C.5	N/A	See exemplar

618



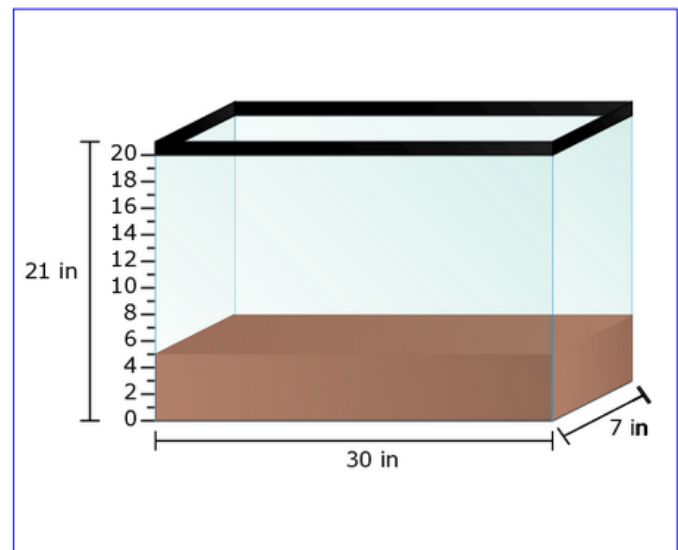
Walter puts 1050 cubic inches of dirt into the tank shown.

Click the number line to show the height of the dirt in the tank.



Exemplar: (shown at right)

Rubric: (1 point) Student selects 5 inches.



Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#17	3	NF	D	3	5.NF.B.4	2, 6	See exemplar

2021



Drag one number into each box to create a fraction that correctly completes each statement.

0
1
2
3
4
5
6
7
8
9

Delete 

$$4 \times \frac{\square}{\square} < 4$$

$$4 \times \frac{\square}{\square} = 4$$

$$4 \times \frac{\square}{\square} > 4$$

Exemplar:

- $\frac{1}{3}$ or any fraction less than 1
- $\frac{4}{4}$ or any fraction equal to 1
- $\frac{5}{2}$ or any fraction greater than 1

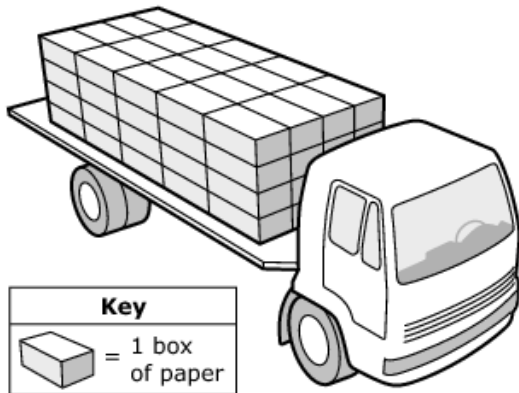
Rubric: (2 points) Student completes three correct fractions.
(1 point) Student completes two correct fractions.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#18	4	MD, NBT	D	2	5.MD.C, 5.NBT.B.7	1, 2, 5, 6	3

1894



The bed of a truck is stacked with boxes of paper. The boxes are stacked 5 boxes deep by 4 boxes high by 4 boxes across, as shown in the picture.



- When the driver is in the **empty** truck, the mass is 2948.35 kilograms.
- The mass of 1 box of paper is 22.5 kilograms.
- The driver delivers some of the boxes of paper at his first stop.
- The truck has to drive over a bridge on the way to the next stop.
- Trucks with a mass greater than 4700 kilograms are **not** allowed to drive over the bridge.

Enter the **minimum** number of boxes of paper the driver must deliver at the first stop to be allowed to drive over the bridge.

← → ↶ ↷ ✖

1	2	3	
4	5	6	
7	8	9	
0	.	$\frac{\square}{\square}$	

Key: 3

Rubric: (2 points) Student enters 3.
 (1 point) Student enters any value from 2.0-2.148 or equivalent.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#19	1	NF	E	2	5.NF.A.2	N/A	$\frac{3}{4}$

1783



Jason begins at the start of a path and rides his bike $11\frac{1}{2}$ miles on the path. The path is $12\frac{1}{4}$ miles long.

Enter the distance, in miles, Jason must ride to reach the end of the path.

←
→
↶
↷
✖

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: $\frac{3}{4}$ or equivalent value

Rubric:(1 point) Student enters the correct distance.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#20	1	NF	E	1	5.NF.A.1	N/A	See exemplar

2117



Select two fractions that can be rewritten with a denominator of 24.

$\frac{1}{6}$

$\frac{1}{5}$

$\frac{5}{7}$

$\frac{9}{10}$

$\frac{1}{9}$

$\frac{7}{8}$

$\frac{1}{6}$

$\frac{1}{5}$

$\frac{5}{7}$

$\frac{9}{10}$

$\frac{1}{9}$

$\frac{7}{8}$

Exemplar: (shown at right)

Rubric: (1 point) Student selects the first and last fractions.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#21	4	G	F	3	5.G.A.2	1, 4	See exemplar

1898

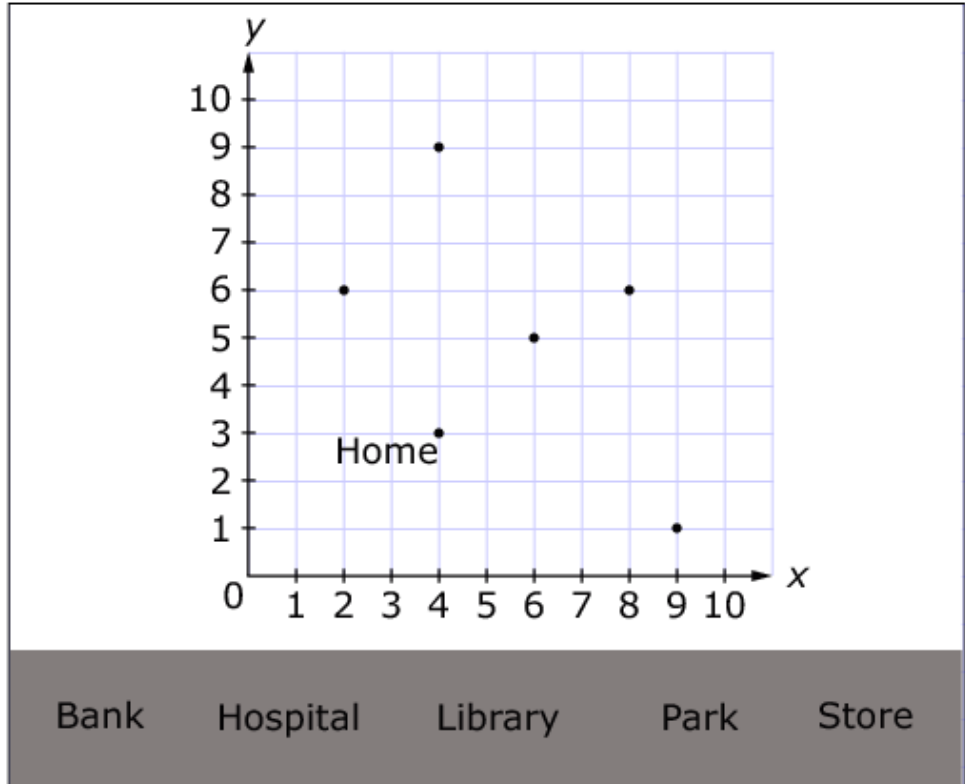


The location of Mary's home is plotted on the coordinate grid.

Read these clues about other places in Mary's town.

- The bank is located at $(9, 1)$.
- The library is 6 blocks from the store.
- The store is 3 blocks from the park.
- The hospital is 5 blocks from the library.
- The park is 4 blocks from Mary's home.

Drag the names of each place to the correct location on the coordinate grid.

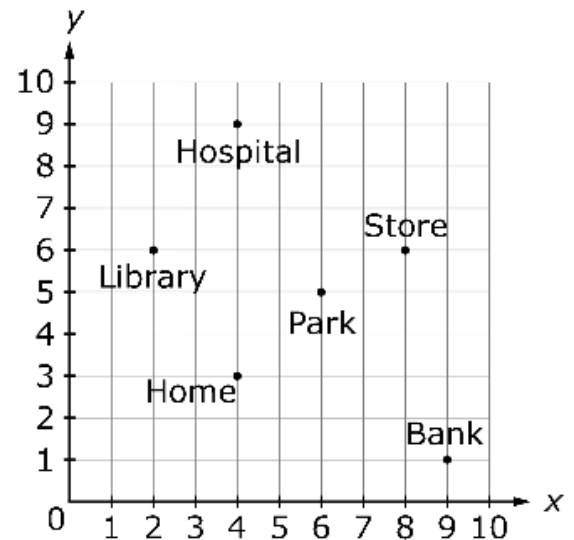


Key

└─ represents 1 block

Exemplar: (shown at right)

Rubric: (1 Point) Student correctly places the names of each of the locations on the coordinate grid.






Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#22	1	G	K	2	5.G.B.3	N/A	See exemplar

1939






All parallelograms have opposite sides that are equal in length and parallel.

Determine whether each polygon shown is also a parallelogram.
Select Yes or No for each polygon.

	Yes	No
 Rectangle	<input type="checkbox"/>	<input type="checkbox"/>
 Trapezoid	<input type="checkbox"/>	<input type="checkbox"/>
 Rhombus	<input type="checkbox"/>	<input type="checkbox"/>

Exemplar: (shown at right)

Rubric: (1 point) Student correctly identifies the polygons that are also parallelograms (YNY).

	Yes	No
 Rectangle	<input checked="" type="checkbox"/>	<input type="checkbox"/>
 Trapezoid	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 Rhombus	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#23	3	NF	C	2	5.NF.B.4	3	B

1962

Lola has 4 orange juice containers. Each container is $\frac{5}{8}$ full.

Lola claims to have a total of $2\frac{1}{2}$ gallons of orange juice in the 4 containers.

Which of these statements **must** be true in order for Lola's claim to be correct?

- Ⓐ Each container has a capacity of $\frac{5}{8}$ gallon.
- Ⓑ Each container has a capacity of 1 gallon.
- Ⓒ Each container has a capacity of $2\frac{1}{2}$ gallons.
- Ⓓ Each container has a capacity of 8 gallons.

Key: B

Rubric: (1 point) Student selects the correct statement.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#24	1	NF	F	1	5.NF.B.7c	N/A	$\frac{1}{8}$

1787



Ryan has $\frac{1}{2}$ pound of chocolate. He divides it into 4 equal portions.

Enter the amount of chocolate, in pounds, in each portion.

←
→
↶
↷
✖

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: $\frac{1}{8}$ or equivalent value

Rubric: (1 point) Student enters the correct amount of chocolate.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#25	1	NF	F	2	5.NF.B.5a	N/A	See below

1786



Enter a value for b that makes this statement true: $5 \times b$ is less than 5 but greater than 0.

←
→
↶
↷
✖

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

Key: $0 < b < 1$

Rubric: (1 point) Student enters any value greater than 0 and less than 1, excluding 0 and 1.

Item	Claim	Domain	Target	DOK	CONTENT	MP	Key
#26	1	NF	F	1	5.NF.B.4a	N/A	See exemplar

1848



Select **all** expressions that are equal to $3\frac{1}{4}$.

$26 \times \frac{1}{8}$

$2\frac{1}{8} \times 2$

4×13

$\frac{1}{4} \times 3$

$13 \times \frac{1}{4}$

Exemplar: (shown at right)

Rubric: (1 point) Student selects the first and last expressions.

$26 \times \frac{1}{8}$

$2\frac{1}{8} \times 2$

4×13

$\frac{1}{4} \times 3$

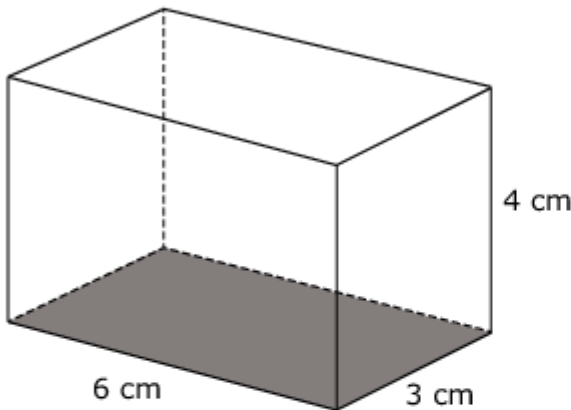
$13 \times \frac{1}{4}$

Item #27	Claim 1	Domain MD	Target I	DOK 2	CONTENT 5.MD.C.5b	MP N/A	Key See exemplar
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1935



The right rectangular prism shown has a length of 6 centimeters, width of 3 centimeters, and height of 4 centimeters.



Determine whether each equation can be used to find the volume (V) of this prism. Select Yes or No for each equation.

	Yes	No
$V = 18 \times 4$	<input type="checkbox"/>	<input type="checkbox"/>
$V = (6 + 3) \times 4$	<input type="checkbox"/>	<input type="checkbox"/>
$V = 6 \times 3 \times 4$	<input type="checkbox"/>	<input type="checkbox"/>
$V = 9 \times 4$	<input type="checkbox"/>	<input type="checkbox"/>

Exemplar: (shown at right)

Rubric: (1 point) Student correctly identifies the equations that can be used to find the volume (YNYN).

	Yes	No
$V = 18 \times 4$	<input checked="" type="checkbox"/>	<input type="checkbox"/>
$V = (6 + 3) \times 4$	<input type="checkbox"/>	<input checked="" type="checkbox"/>
$V = 6 \times 3 \times 4$	<input checked="" type="checkbox"/>	<input type="checkbox"/>
$V = 9 \times 4$	<input type="checkbox"/>	<input checked="" type="checkbox"/>