

Example Item 3A.1a (Grade 3)

Primary Target 3A (Content Domain OA), Secondary Target 1D (CCSS 3.OA.B), Tertiary Target 3F

Marquis said, "The more numbers you multiply, the greater the product." Then he wrote:

$$2 \times 8 = 16$$

$$2 \times 5 \times 5 = 50$$

$$2 \times 3 \times 5 \times 2 = 60$$

$$60 > 50 > 16$$

Give an example of a product of two numbers that is greater than $2 \times 5 \times 5$.

$$[\] \times [\] > (2 \times 5 \times 5)$$

Enter the numbers in the two response boxes.

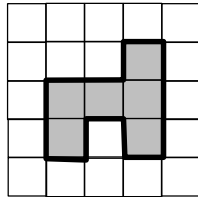
Rubric: (1 point) The student enters two numbers in the response boxes whose product is greater than 50. (e.g., 7 and 8).

Response Type: Equation/numeric

Example Item 3A.1b (Grade 4)

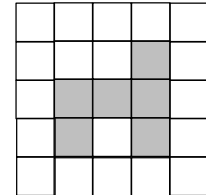
Primary Target 3A (Content Domain MD), Secondary Target 1I (CCSS 3.MD.D), Tertiary Target 3F

William shaded 6 squares in a grid to make the figure shown.

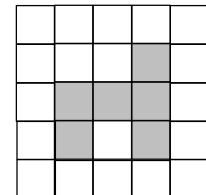


He claims that if he **adds 1 more** square to this figure in different places, the perimeter can be greater than, less than, or equal to the perimeter of the original figure.

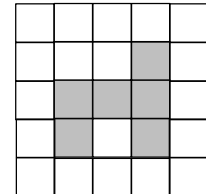
Part A. Click to shade one more square so the perimeter is greater than the original figure.



Part B. Click to shade one more square so the perimeter is less than the original figure.



Part C. Click to shade one more square so the perimeter is equal to the original figure.



Rubric: (2 points) The student is able to provide an example that supports each conjecture.
 (1 point) The student is able to provide two out of three correct examples.
 (0 points) The student is unable to provide at least two correct examples.

Exemplar⁶:

For Part A, the perimeter has to be greater than 14 units.



For Part B, the perimeter of the figure has to be less than 14 units.



For Part C, the perimeter of the figure has to be equal to 14 units.



Response Type: Hot Spot

⁶ An exemplar is just one example of a correct response. Other correct responses are possible.

Example Item 3A.1c (Grade 5)

Primary Target 3A (Content Domain NBT), Secondary Target 1D (CCSS 4.NBT.B), Tertiary Target 3F

Nina says, "If you multiply a 2-digit number and a 1-digit number, you get a 3-digit number."

Enter numbers in the table to give one example of when Nina’s claim is true, and another example that shows her claim is **not** always true.

Example of when –	2-digit number	1-digit number	3-digit product
Nina’s claim is true			
Nina’s claim is not true			

Rubric: (2 points) The student gives an example where the product is a three-digit number (e.g., $90 \times 2=180$) and an example where it is not (e.g., $10 \times 2=20$).

(1 point) The student gives an example where the product is a three-digit number or an example where it is not.

Response Type: Fill-in Table

Task Model 3A.2

- The student is presented with one or more propositions or conjectures and several examples and asked implicitly or explicitly which examples support or refute each proposition.
- Items in this task model should cover all cases and not be unintentionally misleading about the truth status of a particular proposition or conjecture.

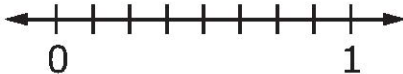
Example Item 3A.2a (Grade 3)

Primary Target 3A (Content Domain NF), Secondary Target 1F (CCSS 3.NF.3d), Tertiary Target 3F

Robert said, "When comparing two fractions with a numerator of 1, the fraction with the bigger denominator is always greater."

Part A
Drag each fraction to the correct location on the number line.

Part B
Is Robert's statement true? Click Yes or No.



$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$

Is Robert's statement true?
Click Yes or No.

Interaction: The student drags fractions from the single-use palette to the number line and clicks on "Yes" or "No."

Rubric: (2 points) The student places all three fractions in the correct locations and answers "No."
(1 point) The student either places all the fractions in the correct locations and answers "Yes"; or places all fractions in the correct order but misses the correct location for one or more fractions and answers "No."

Response Type: Drag and Drop and Hot Spot

Grades 3-5, Claim 3

Example Item 3A.2b (Grade 4)

Primary Target 3A (Content Domain NBT), Secondary Target 1E (CCSS 4.NBT.B)

Click in the box that matches each division problem to the correct claim.

Claim	$200 \div 5$	$777 \div 7$	$108 \div 9$
When you divide a 3-digit number by a 1-digit number, the quotient can have 1 digit .			
When you divide a 3-digit number by a 1-digit number, the quotient can have 2 digits .			
When you divide a 3-digit number by a 1-digit number, the quotient can have 3 digits .			

Rubric: (1 point) The student matches each quotient to the appropriate claim (e.g., Claim 2: $200 \div 5$ and $108 \div 9$. Claim 3: $777 \div 7$).

Response Type: Matching Table

Target 3B: Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.

General Task Model Expectations for Target 3B

- Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts.
- Items for this target can probe a key mathematical structure such as the structure of base-ten numbers, fractions, or the four operations and their properties.
- Items for this target can require students to solve a multi-step, well-posed problem involving the application of mathematics to a real-world context. The difference between items for Claim 2A and Claim 3B is that the focus in 3B is on communicating the reasoning process in addition to getting the correct answer.
- Note that in grades 3–5, items can provide more structure than items for later grades to help them understand the expectations for justifying or refuting a proposition or conjecture.

Task Model 3B.1

- The student is presented with a proposition or conjecture. The student is asked to identify or construct reasoning that justifies or refutes the proposition or conjecture.
- Items in this task model often address more generalized reasoning about a class of problems or reasoning that generalizes beyond the given problem context even when it is presented in a particular case.

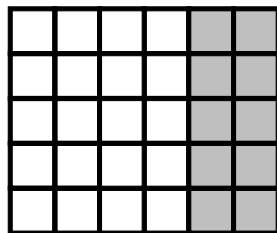
Example Item 3B.1a (Grade 3)

Primary Target 3B (Content Domain OA), Secondary Target 1B (CCSS 3.OA.B), Tertiary Target 3F

Bev said, “I can find 5×6 by adding 5×4 and 5×2 .”

She wrote this equation and drew this picture to show her thinking.

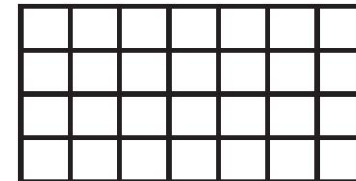
$$5 \times 6 = 5 \times 4 + 5 \times 2$$



Mel wrote this equation: $4 \times 7 = 4 \times 3 + 4 \times 4$

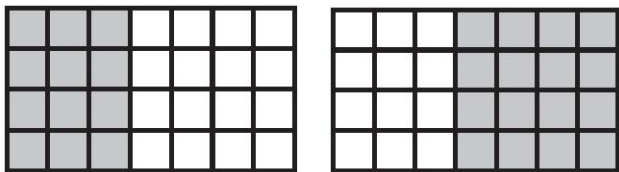
Is this equation true? Click on Yes or No.

Click on the squares to draw a picture that supports your answer.



Grades 3-5, Claim 3

Rubric: (1 point) The student identifies the equation as true and clicks to shade either a 4 x 3 rectangle or a 4 x 4 rectangle; see examples below.



Response Type: Hotspot

Example Item 3B.1b (Grade 4)

Primary Target 3B (Content Domain OA), Secondary Target 1B (CCSS 4.NBT.B), Tertiary Target 3F

<p>Carter says, "8000 is 100 times as large as 80."</p> <p>Choose three statements that support this claim.</p> <p>Drag them into a logical order.</p>	<ol style="list-style-type: none"> 1. 2. 3. <hr/> <p>So 8000 is 100 times as large as 80.</p> <p>80 is 10 times as large as 8.</p> <p>800 is 10 times as large as 80.</p> <p>8000 is 10 times as large as 800.</p> <p>$10 \times 10 = 100$</p> <p>$10 \times 100 = 1000$</p> <p>$80 \times 10 = 800$</p> <p>$800 \times 10 = 8000$</p>
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Rubric: (1 point) The student selects three statements that complete an explanation for the claim and puts them in a logical order. In this particular example, the order doesn't matter.

Exemplars:

- | | |
|------------------------------------|---------------------------|
| 1. 800 is 10 times as big as 80. | 1. $80 \times 10 = 800$ |
| 2. 8000 is 10 times as big as 800. | 2. $800 \times 10 = 8000$ |
| 3. $10 \times 10 = 100$ | 3. $10 \times 10 = 100$ |

Response Type: Drag and Drop

Task Model 3B.2

- The student is asked a mathematical question and is asked to identify or construct reasoning that justifies his or her answer.
- Items in this task model often address more generalized reasoning about a class of problems or reasoning that generalizes beyond the given problem context even when it is presented in a particular case.

Example Item 3B.2a (Grade 4)

Primary Target 3B (Content Domain OA), Secondary Target 1B (CCSS), Tertiary Target 3F

Rectangle A is 4 times as long as rectangle B.
 Rectangle B is 3 times as long as rectangle C.

How many times greater is rectangle A than rectangle C?
 times

Choose three equations that, when taken together, support your claim. Drag them into a logical order.

1.	
2.	
3.	
$4 \times A = B$	$3 \times C = B$
$4 \times B = A$	$4 \times (3 \times C) = A$
$3 \times B = C$	$3 \times (4 \times C) = A$

Rubric: (2 point) The student enters the correct multiplicative factor in the response box (e.g., 12) and selects three statements that support the claim and puts them in a logical order.

(1 point) The student does one or the other.

Exemplars:

- | | |
|--------------------------------|--------------------------------|
| 1. $4 \times B = A$ | 1. $3 \times C = B$ |
| 2. $3 \times C = B$ | 2. $4 \times B = A$ |
| 3. $4 \times (3 \times C) = C$ | 3. $4 \times (3 \times B) = A$ |

Response Type: Equation/Numeric and Drag and Drop

Note: Functionality to combine these items types doesn't currently exist. The item could be implemented as a 1 point item if the scale factor is given.

Example Item 3B.2b (Grade 5)

Primary Target 3B (Content Domain MD), Secondary Target 1I (CCSS 5.MD.5), Tertiary Target 3F

The dimensions of a right rectangular prism are:

- length = 9 centimeters
- width = 3 centimeters
- height = 5 centimeters

What will happen to the volume of the right rectangular prism if the length, the width, and the height are each doubled?

The new volume will be [drop-down choices: 2, 4, 6, 8] times the original volume because $(2 \times 9)(2 \times 3)(2 \times 5) =$
[drop-down choices: 2, 4, 6, 8] $\times (9 \times 3 \times 5)$.

Rubric: (1 point) The student selects the correct multiplier (e.g., 8) in both drop-down menus.

Response Type: Drop-down menu

Note: Functionality for this item doesn't currently exist, though we anticipate to be able to offer drop-down items by 2018. The item could be implemented as a multiple choice in the meantime.

Task Model 3B.3

- Items for this target require the student to solve a multi-step, well-posed problem involving the application of mathematics to a real-world context.
- The difference between Claim 2 task models and this task model is that the student needs to provide some evidence of his/her reasoning. The difference between Claim 4 task models and this task model is that the problem is completely well posed and no extraneous information is given.

Grades 3-5, Claim 3

Example Item 3B.3a (Grade 3)

Primary Target 3B (Content Domain OA), Secondary Target 1D (CCSS 3.OA.D)

A bird ate 400 grams of food in 3 days. The bird ate 120 grams of food on Day 1, 150 grams of food on Day 2, and g grams of food on Day 3.

Day	Grams of Food
1	120
2	150
3	g

How many grams of food did the bird eat on Day 3? Enter your answer in the first response box.

In the second response box, enter an equation that you could solve to find the amount of food the bird ate on Day 3.

Rubric: (2 points) The student enters the correct number of grams of food on Day 3 and enters a correct (e.g., 130 ; $400 - 120 - 150 = x$, $120 + 150 + x = 400$, or equivalent equation).

(1 point) The student enters the correct number of grams of food on Day 3 or enters a correct equation.

Response Type: Equation/Numeric (2 response boxes)

Example Item 3B.3b (Grade 4)

Primary Target 3B (Content Domain MD), Secondary Target 1G (CCSS 4.MD.A)

- There are 60 seconds in a minute.
- There are 60 minutes in an hour.
- There are 24 hours in a day.

What is the total number of minutes in 1 day? Enter your answer in the first response box.

Write an expression that shows how you found your answer. Enter your expression in the second response box.

Rubric: (2 points) The student enters the correct number of minutes in a day in the first response box (1440) and a correct equation in the second response box (e.g., 60×24 , 144×10 , or equivalent expressions).

(1 point) The student enters the correct number of minutes in a day in the first response box or a correct equation in the second response box.

Response Type: Equation/Numeric (2 response boxes)

Target 3C: State logical assumptions being used.

General Task Model Expectations for Target 3C

- Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts.
- For some items, the student must explicitly identify assumptions that
 - Make a problem well-posed, or
 - Make a particular solution method viable.
- When possible, items in this target should focus on assumptions that are commonly made implicitly and can cause confusion when left implicit.
- For some items, the student will be given a definition and be asked to reason from that definition.

Task Model 3C.1

- The student is asked to identify an unstated assumption that would make the problem well-posed or allow them to solve a problem using a given method.

Example Item 3C.1a (Grade 3)

Primary Target 3C (Content Domain OA), Secondary Target 1B (CCSS 3.OA.B)

A 20 meter rope is cut into 4 pieces. Jenny says you can find the length of each piece by finding $20 \div 4$.

What statement best describes Jenny's claim?

- A. Jenny's claim is false. She should add 4 and 20 instead.
- B. Jenny's claim is false. She should multiply 4 and 20 instead.
- C. Jenny's claim is true if you assume that each piece is 4 meters long.
- D. Jenny's claim is true if you assume that the pieces are all equal in length.

Rubric: (1 point) The student selects the correct statement (e.g., D).

Response Type: Multiple Choice, single correct response

Grades 3-5, Claim 3

Example Item 3C.1b (Grade 5)

Primary Target 3C (Content Domain OA), Secondary Target 1A (CCSS 4.OA.A)

Gil and Nina are comparing the numbers 3 and 12.

Gil says, "12 is 9 more than 3."

Nina says, "12 is 4 times more than 3."

What is true about Gil and Nina's statements?

- A. Nina is correct and Gil is not. You should multiply to compare the numbers.
- B. Gil is correct and Nina is not. You should add to compare the numbers.
- C. They are both correct. They just compared using different operations.
- D. Neither one is correct. You have to compare like this: $12 > 3$.

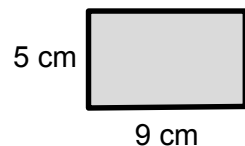
Rubric: (1 point) The student selects the correct statement (e.g., C).

Response Type: Multiple Choice, single correct response

Example Item 3C.1c (Grade 5)

Primary Target 3C (Content Domain G, MD), Secondary Target 1K (CCSS 5.G.B, 4.MD.A.3), Tertiary Target 3D

Carrie saw the figure below and said that its area is $5 \times 9 = 45$ square centimeters.



Which statement best supports Carrie's claim?

- A. It is true if the opposite sides have the same length.
- B. It is true if the figure is a rectangle.
- C. It is false if the opposite sides have the same length.
- D. It is false if the figure is a rectangle.

Rubric: (1 point) The student selects the correct statement (e.g., B).

Response Type: Multiple Choice, single correct response

Grades 3-5, Claim 3

Example Item 3C.1d (Grade 5)

Primary Target 3C (Content Domain NF), Secondary Target 1F (CCSS 4.NF.A.2), Tertiary Target 3D

Flo ate $\frac{3}{4}$ of a sandwich and Arnie ate $\frac{2}{3}$ of a sandwich. If Arnie ate more, what must be true?

- A. Flo's sandwich is bigger.
- B. Arnie's sandwich is bigger.
- C. The sandwiches are the same size.
- D. It doesn't matter which sandwich is bigger.

Rubric: (1 point) The student selects the correct assumption (e.g., B).

Response Type: Multiple Choice, single correct response

Task Model 3C.2

- The student will be given one or more definitions or assumptions and be asked to reason from that set of definitions and assumptions.

Example Item 3C.2a (Grade 5)

Primary Target 3C (Content Domain G), Secondary Target 1K (CCSS 5.G.B)

Patrick is learning about quadrilaterals. He was given the following true statements.

- Opposite sides of all parallelograms have the same length.
- Opposite sides of all rectangles have the same length.
- All sides of a square have the same length.
- All rectangles are parallelograms.
- All rectangles have right angles.
- All squares have right angles.

Based on this information, Patrick assumes the following statements are always true. Which statement is **not** supported by the given information?

- A. All squares are rectangles.
- B. All squares are parallelograms.
- C. All parallelograms are rectangles.
- D. All parallelograms are quadrilaterals.

Rubric: (1 point) The student selects the correct response (e.g., C).

Response Type: Multiple choice, single correct response

Grades 3-5, Claim 3

Target 3D: Use the technique of breaking an argument into cases.

General Task Model Expectations for Target 3D

- Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts.
- The student is given
 - A problem that has a finite number of possible solutions, some of which work and some of which don't, or
 - A proposition that is true in some cases but not others.
- Items for Claim 3 Target D should either present an exhaustive set of cases to consider or expect students to consider all possible cases in turn in order to distinguish it from items in other targets.
- In grades 3-5, the student will be given the cases to consider.

Task Model 3D.1

- The student is given a problem that has a finite number of possible solutions, some of which work and some of which don't.

Example Item 3D.1a (Grade 3)

Primary Target 3D (Content Domain OA), Secondary Target 1A (CCSS 3.OA.A)

Select **all** the ways can you divide 15 children into equal groups with none left over.

- A. 2 groups
- B. 3 groups
- C. 4 groups
- D. 5 groups

Rubric: (1 point) The student selects the possible number of groups (B and D).

Response Type: Multiple Choice, multiple select response

Example Item 3D.1b (Grade 4)

Primary Target 3D (Content Domain MD), Secondary Target 1K (CCSS 4.MD.C)

When you cut an obtuse angle into two smaller angles, what can be true? (Select **all** that apply.)

- A. The two smaller angles can be less than 90 degrees.
- B. At least one of the two smaller angles can be greater than 90 degrees.
- C. Both of the two smaller angles can be greater than 90 degrees.

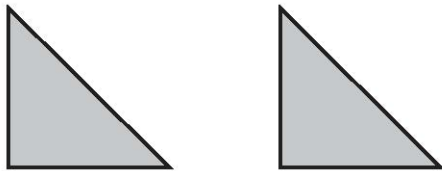
Rubric: (1 point) The student selects the possible cases (A and B).

Response Type: Multiple Choice, multiple correct response

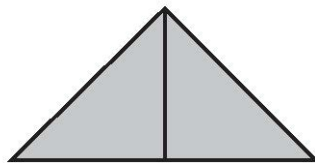
Example Item 3D.1c (Grade 5)

Primary Target 3D (Content Domain G), Secondary Target 1K (CCSS 5.G.B)

Nora has drawn two identical isosceles right triangles.



Here is a way to put them together so that they share a side and make another triangle.



Select **all** the quadrilaterals Nora can make with these triangles if she puts them together so that they share a side.

- A. A square
- B. A rectangle that is not a square
- C. A rhombus that is not a square
- D. A parallelogram that is not a rectangle

Rubric: (1 point) The student selects the possible cases (A and D).

Response Type: Multiple Choice, multiple select response

Grades 3-5, Claim 3

Task Model 3D.2

- The student is given a proposition and an exhaustive list of cases and asked to determine in which of those cases the proposition is true.

Example Item 3D.2a (Grade 3)

Primary Target 3D (Content Domain OA), Secondary Target 1B (CCSS 3.OA.B), Tertiary Target 3C

n is a whole number and $n \times 5 = 5$.

Identify which values of n make this equation true.

	True	False
When $n = 0$		
When $n = 1$		
When $n > 1$		
This is never true		

Rubric: (1 point) The student identifies the correct values of n (F, T, F, F)

Response Type: Matching Table

Example Item 3D.2b (Grade 4)

Primary Target 3D (Content Domain NF), Secondary Target 1G (CCSS 4.NF.A), Tertiary Target 3C

What must be true about d to make this inequality true?

$$\frac{3}{d} \geq \frac{3}{10}$$

Identify which values of d make this equation true.

	True	False
$d < 10$		
$d = 10$		
$d > 10$		

Rubric: (1 point) The student identifies the correct values of d (T, T, F)

Response Type: Matching Table

Example Item 3D.2c (Grade 5)

Primary Target 3D (Content Domain NF), Secondary Target 1? (CCSS 5.NF.B), Tertiary Target 3C

32×45 is greater than both 32 and 45. When is $a \times b$ between a and b ?

Select **all** that apply.

- A. When $a > 1$ and $b > 1$
- B. When $a < 1$ and $b > 1$
- C. When $b < 1$ and $a > 1$
- D. When $a < 1$ and $b < 1$

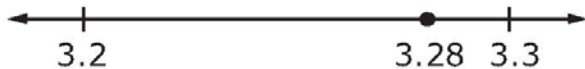
Rubric: (1 point) The student selects B and C.

Response Type: Multiple Choice, multiple correct response

Example Item 3D.2d (Grade 5)

Primary Target 3C (Content Domain NBT), Secondary Target 1C (CCSS 5.NBT.A), Tertiary Target 3F

Jenny says, "To round a decimal d between 3.2 and 3.3 to the nearest tenth, you just see which tenth it is closest to on the number line. For example, 3.28 is closer to 3.3 than 3.2, so it rounds to 3.3."



In which cases will Jenny's method work? (Select **all** that apply.)

- A. Case 1: $3.25 < d \leq 3.3$
- B. Case 2: $d = 3.25$
- C. Case 3: $3.2 \leq d < 3.25$
- D. Jenny's method doesn't usually work—it just worked for this example.

Rubric: (1 point) The student selects the correct cases (A and C).

Response Type: Multiple Choice, multiple correct response

Target 3E: Distinguish correct logic or reasoning from that which is flawed and—if there is a flaw in the argument—explain what it is.

General Task Model Expectations for Target 3E

- Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts.
- The student is presented with valid or invalid reasoning and told it is flawed or asked to determine its validity. If the reasoning is flawed, the student identifies, explains, and/or corrects the error or flaw.
- The error should be more than just a computational error or an error in counting, and should reflect an actual error in reasoning.
- Analyzing faulty algorithms is acceptable so long as the algorithm is internally consistent and it isn't just a mechanical mistake executing a standard algorithm.

Task Model 3E.1

- Some flawed reasoning or student work is presented and the student identifies and/or corrects the error or flaw.
- The student is presented with valid or invalid reasoning and asked to determine its validity. If the reasoning is flawed, the student will explain or correct the flaw.

Example Item 3E.1a (Grade 3)

Primary Target 3E (Content Domain OA), Secondary Target 1A (CCSS 3.OA.A), Tertiary Target 3C

Tasha is solving this problem:

There 4 tanks with 10 fish in each tank. How many fish are there all together?

Tasha claims, "There are $4 + 10 = 14$ fish all together."

Which statement best describes Tasha's claim?

- A. Tasha correctly added to find the total.
- B. Tasha should subtract instead.
- C. Tasha should multiply instead.
- D. Tasha should divide instead.

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

Response Type: Multiple Choice, single correct response

Example Item 3E.1b (Grade 4)

Primary Target 3E (Content Domain NBT), Secondary Target 1E (CCSS 3.NBT.B)

Harvey was solving this problem:

There are 12 packets of gum each with a mass of 65 grams. What is the mass of all of the packets combined?

Harvey said, "I can multiply the tens places and the ones places and add them."

Then he wrote:

$$12 = 10 + 2$$

$$65 = 60 + 5$$

$$600 + 10 = 610$$

The total mass is 610 grams.

Which statement best describes Harvey's claim?

- A. Harvey solved the problem correctly and got the right answer.
- B. Harvey made a mistake in solving the problem but got the right answer anyway.
- C. Harvey had a correct way of solving the problem but got the wrong answer.
- D. Harvey's solution is not correct because he did not multiply the tens with the ones.

Rubric: (1 point) The student selects the correct statement (e.g., D).**Response Type:** Multiple Choice, single correct response**Example Item 3E.1c (Grade 5)**

Primary Target 3E (Content Domain NF), Secondary Target 1E (CCSS 5.NF.A)

Brian is adding $\frac{2}{3} + \frac{7}{5}$. He wrote: $\frac{2}{3} + \frac{7}{5} = \frac{2+7}{3+5} = \frac{9}{8}$ Brian's approach is **not** correct. Select **all** of the statements that could indicate mistakes with Brian's approach.

- A. He added the denominators.
- B. He didn't write $\frac{7}{5}$ as a mixed number.
- C. He didn't write his answer as a mixed number.
- D. He added the numerators when the denominators were different.

Grades 3-5, Claim 3

Rubric: (1 point) The student clicks on the mistakes in the algorithm (A and S).

Response Type: Multiple Choice, multiple correct response

Task Model 3E.2

- Two or more approaches or chains of reasoning are given and the student is asked to identify the correct method and justification OR identify the incorrect method/reasoning and the justification.

Example Item 3E.2a (Grade 4)

Primary Target 3E (Content Domain NBT), Secondary Target 1E (CCSS 4.NBT.A), Tertiary Target 3C, Quaternary Target 3F

Zach and Nate both rounded 6481, but used different methods.

Zach thought about it this way:

6481 rounds to 6480
6480 rounds to 6500
6500 rounds to 7000
So 6481 rounds to 7000.

Nate thought about it this way:

6481 is closer to 6000 than to 7000,
so it rounds to 6000.

Which statement best describes these methods?

- A. Zach's method is correct.
- B. Nate's method is correct.
- C. Both methods are correct.
- D. Neither method is correct.

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

Response Type: Multiple Choice, single correct response

Example Item 3E.2a (Grade 5)

Primary Target 3E (Content Domain NBT), Secondary Target 1E (CCSS 4.NBT.A), Tertiary Target 3C

Mr. Spivak’s class was finding the volume of a right rectangular prism with dimensions 20 cm, 45 cm, and 80 cm. Brigit said, “I tried two ways of multiplying the dimensions and got different answers. I can’t figure out what went wrong.” She explained her two ways to Mr. Spivak.

First method:	Second method:
Step 1: I distributed. $20 \times (45 \times 80) = (20 \times 45) + (20 \times 80)$	Step 1: I broke apart the numbers. $20 \times 45 \times 80 = (2 \times 10) \times (5 \times 9) \times (8 \times 10)$
Step 2: I multiplied 20 by 45 and 20 by 80. $= 900 + 1600$	Step 2: I rearranged the numbers.
Step 3: Then I added. $= 2500$	Step 3: Then I multiplied everything. $= 72 \times (10 \times 100) = 72,000$

Which method has an error? Which step has the first error in that method?

Brigit’s [drop-down options: first, second] method has an error. She made the error in step [drop-down options: 1, 2, 3].

Rubric: (1 point) The student selects the incorrect method (first) and identifies the step in which the error occurred (1).

Response Type: Drop-down Menu⁷

⁷ This response is not yet supported by the Smarter Balanced item authoring tool, but is expected as an enhancement by 2017.

Grades 3-5, Claim 3

Target 3F: Base arguments on concrete referents such as objects, drawings, diagrams, and actions

Task Model 3F.1

- The student uses concrete referents to help justify or refute an argument.
- Items in this task model should address content in standards that specifically call for number lines, diagrams, and contexts to be used as a basis for reasoning.

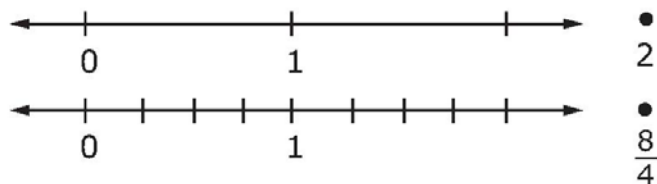
Example Item 3F.1a (Grade 3)

Primary Target 3F (Content Domain NBT), Secondary Target 1F (CCSS 3.NF.A), Tertiary Target 3B

Compare $\frac{8}{4}$ and 2.

Part A

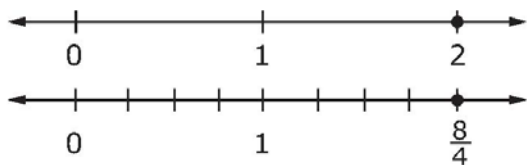
Plot each number on a number line.



Part B

$\frac{8}{4}$ [drop-down choices: <, =, >] 2

Rubric: (1 point) The student plots the points correctly (see below) and selects the correct comparison (=).



Response Type: Drop-down Menu, Graphing

Note: Functionality for this item type does not currently exist.

Grades 3-5, Claim 3

Example Item 3B.1b (Grade 3)

Primary Target 3F (Content Domain NF), Secondary Target 1F (CCSS 3.NF.A), Tertiary Target 3B

Part A

Which comparison between $\frac{1}{5}$ and $\frac{1}{8}$ is correct?

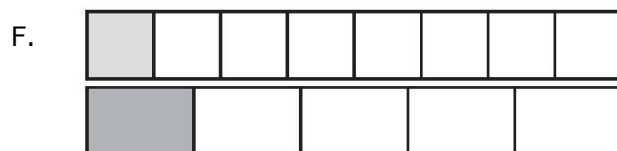
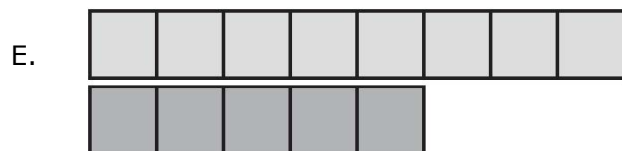
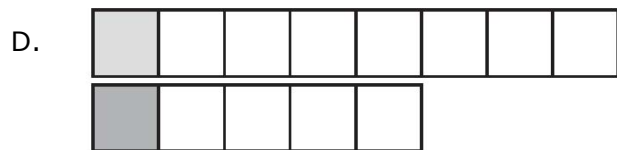
A. $\frac{1}{5} < \frac{1}{8}$

B. $\frac{1}{5} > \frac{1}{8}$

C. $\frac{1}{5} = \frac{1}{8}$

Part B

Choose a picture that supports your answer in *Part A*.



Rubric: (1 point) The student selects the correct comparison and the correct picture (B, F).

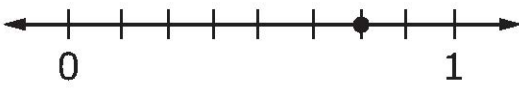

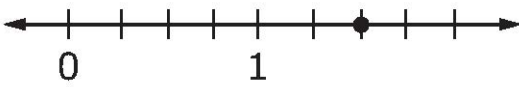
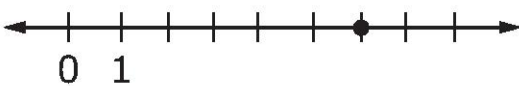
Response Type: Drop-down Menu and Multiple Choice, single correct response

Grades 3-5, Claim 3

Example Item 3F.1c (Grade 4)

Primary Target 3F (Content Domain NBT), Secondary Target 1F (CCSS 4.NF.A), Tertiary Target 3B

Which number line shows that $\frac{3}{4} = \frac{6}{8}$?

- A. 
- B. 
- C. 
- D. 

Rubric: (1 point) The student selects the correct number line (A).

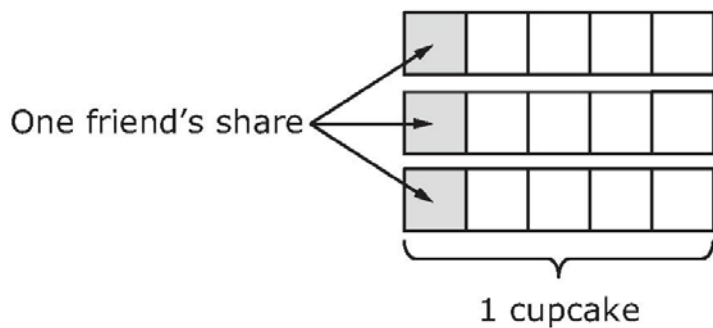
Response Type: Multiple Choice, single correct response

Example Item 3F.1d (Grade 5)

Primary Target 3F (Content Domain NBT), Secondary Target 1F (CCSS 5.NF.B), Tertiary Target 3B

Complete the story about friends sharing cupcakes to show that $3 \div 5 = \frac{3}{5}$.

- 5 friends were sharing 3 cupcakes. They divided each cupcake into 5 equal pieces.
- Each piece is [drop-down menu choices: $\frac{1}{3}$, $\frac{1}{5}$, $\frac{3}{5}$] of a cupcake.
- Each friend got 1 piece of each cupcake.
- Each friend got [drop-down menu choices: $\frac{1}{3}$, $\frac{1}{5}$, $\frac{3}{5}$] of a cupcake in total.



Rubric: (1 point) The student selects the correct unit fraction ($\frac{1}{5}$) and the correct total amount each friend receives ($\frac{3}{5}$).

Response Type: Drop-down Menu