Example Item 2A.1a (Grade 3):
Primary Target 2A (Content Domain MD), Secondary Target 1D (CCSS 3.OA.D), Tertiary Target 1G (CCSS 3.MD.A), Quaternary Target 2D

James gets home from school at 3:30 p.m. He completes 2 chores. Then he plays his computer game until 5:00 p.m.

Chore	Time to Complete
Walk dog	20 minutes
Clean room	40 minutes

Enter the **greatest** number of minutes that James can play his computer game.

Rubric: (1 point) The student enters the correct number of minutes (30 or 30 min).
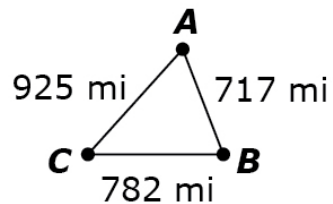
Response Type: Equation/Numeric

Commentary: This item requires the student to identify the relationship between given start and end times and the elapsed times presented in the table, and to identify the unknown quantity as the elapsed time remaining between the start and end times given. Seeing these different quantities and mapping their relationships draws on the skill set identified in Target 2D.

Example Item 2A.1b (Grade 4):
Primary Target 2A (Content Domain OA), Secondary Target 1A (CCSS 4.OA.A)

Pia's family drove from City A to City B, then City C, and back to City A. The map shows the distances.

How many miles did they drive all together? Enter your answer in the response box.

Rubric: (1 point) The student enters the correct total distance (2424 or 2424 mi).

Response Type: Equation/Numeric

Commentary: The level of difficulty for this item can be raised by changing the number of cities or having distances in the diagram that are not needed to answer the question, although adding in these extra levels of complexity moves the item closer to a Claim 4 task.

Example Item 2A.1c (Grade 5):
Primary Target 2A (Content Domain OA), Secondary Target 1A (CCSS 5.NF.B), Tertiary Target 2D

Luke buys a bicycle that is on sale for $\frac{1}{2}$ of the original price. The sale price is $80 less than the original price. What is the original price, in dollars, of the bicycle?

Enter your answer in the response box.

Rubric: (1 point) The student enters the correct original price (160 or $160).
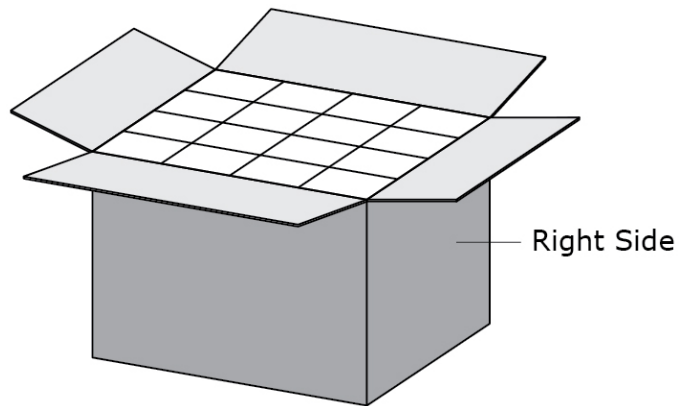
Response Type: Equation/Numeric

Commentary: This item requires the student to identify the sale price and the original price of a bicycle as the quantities of interest in this problem and to identify the relationship between them, and so draws on the skill set identified in Target 2D. Changing the fraction would change the difficulty level.

Example Item 2A.1d (Grade 5):
Primary Target 2A (Content Domain MD), Secondary Target 1I (CCSS 5.MD.C), Tertiary Target 1B (CCSS 4.OA.B), Quaternary Target 2D

A rectangular box is completely filled with 48 same-sized cubes arranged as shown. Julie opens the top of the box and sees 16 cubes.

Right Side

Julie closes the top and then opens the right side of the box. How many cubes should she see?

Enter your answer in the response box.

Rubric: (1 point) The student provides the correct number of cubes for the right side of the box (12).

Response Type: Equation/Numeric

Commentary: This item requires the student to identify the volume and areas of the faces of the rectangular box as quantities of interest and to use the small cubes (and their faces) as units in order to relate the two quantities, and so draws on the skill set identified in Target 2D.
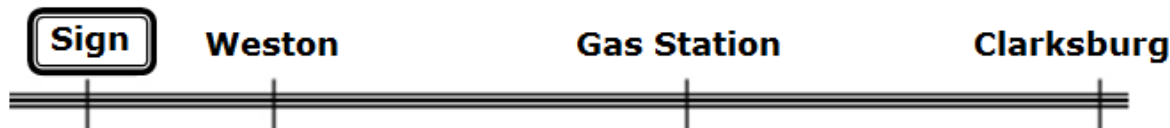
Example Item 2A.1e (Grade 5):
Primary Target 2A (Content Domain NF), Secondary Target 1F (CCSS 5.NF.B), Tertiary Target 2D

Mia is traveling along a road toward Clarksburg and sees the following sign.

Weston	5 miles
Clarksburg	35 miles

Mia knows there is a gas station located halfway between Weston and Clarksburg, as shown on this diagram.

Sign   **Weston**   **Gas Station**   **Clarksburg**

How many miles is it from Weston to Clarksburg?
Enter your answer in the first response box.

How many miles is it from the sign to the gas station?
Enter your answer in the second response box.

Rubric: (2 points) The student enters the correct distances for each question (30 or 30 mi; 20 or 20 mi).
(1 point) The student enters only one correct distance (e.g., 30 or 20).

Response Type: Equation/Numeric (2 response boxes)

Commentary: This item requires the student to identify the distances between the sign and the different cities as well as the distances between cities and understand the relationships between these quantities, and so draws on the skill set identified in Target 2D.

Task Model 2A.2

Expectations:
- The student solves a problem in a real-world or mathematical context that requires understanding of the base-ten number system.
- Items in this task model require the student to interpret base-ten numbers in terms of the context.
- Dimensions along which to vary the item include: (a) varying the context, (b) varying the type of operations to be used, or (c) varying the magnitude of the numbers to be used.

Example Item 2A.2a (Grade 3):
Primary Target 2A (Content Domain NBT), Secondary Target 1E (CCSS 3.NBT.A), Tertiary Target 2C

> Sabina has a jar full of dimes. A pack of cards costs 76 cents. How many dimes would she need to buy the cards if she uses no other coins?
>
> Enter your answer in the response box.

Rubric: (1 point) The student enters the correct number of dimes (8).

Response Type: Equation/Numeric

Commentary: This item requires the student to interpret the value of a collection of dimes as a multiple of ten, and so draws on the skill set identified in Claim 2C.

Example Item 2A.2b (Grade 4):
Primary Target 2A (Content Domain NBT), Secondary Target 1E (CCSS 4.NBT.B)

Drag one number into each box to complete the subtraction problem shown.

$$
\begin{array}{r}
5\ 0\ \square\ 6 \\
-\ \square\ 4\ 8\ \square \\
\hline
1\ 6\ \square\ 8
\end{array}
$$

Interaction: The student drags digits 0-9 from the multi-use palette.

Rubric: (1 point) The student drags the correct digits to complete the subtraction problem (5096 − 3488 = 1608).

Response Type: Drag and Drop

Commentary: Small changes to this item change the complexity considerably. The reason that there is a unique solution is that the placement of the unknown digits and the value of the digits was highly engineered; just changing the 8 in the second number to a 5, for example, means that there will be four solutions instead of 1:

5096-3458=1638
5086-3458=1628
5076-3458=1618
5066-3458=1608

Allowing an unknown digit in the hundreds place instead of the ones place changes the complexity significantly.

Task Model 2A.3

Expectations:
- The student makes estimations about quantities in a context.
- Dimensions along which to vary the item include (a) varying the context, (b) requiring no operations (easier) or requiring computations with estimated quantities or estimating the result of computations with quantities (harder), (c) varying the magnitude of the numbers to be used.

Example Item 2A.3a (Grade 4):
Primary Target 2A (Content Domain NBT), Secondary Target 1E (CCSS 4.NBT.B), Tertiary Target 1I (CCSS 4.MD.A)

Select the response that correctly completes this statement:

41 inches is between _____.

    A. 2 feet and 3 feet.
    B. 3 feet and 4 feet.
    C. 4 feet and 5 feet.
    D. 5 feet and 6 feet.

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

Response Type: Multiple Choice, single correct response

Example Item 2A.3b (Grade 5):
Primary Target 2A (Content Domain NF), Secondary Target 1F (CCSS 5.NF.B)

Graciela walked her dog every day for the last 5 days. The time for each walk was between $\frac{1}{2}$ and $\frac{3}{4}$ of an hour. Make an estimate for the total number of minutes she walked her dog in the last 5 days.

Enter your estimate, in minutes, in the response box.

Rubric: (1 point) The student enters a value in the correct range (any number from 150 to 225, inclusive).

Response Type: Equation/numeric

Task Model 2A.4

Expectations:
- The student solves a multi-step problem with the four operations involving whole-numbers and fractions in a purely mathematical context.
- Items in this task model require the student to identify quantities of interest and map their relationships, often via diagrams or equations.
- Dimensions along which to vary the item include (a) varying the context, (b) varying the type of operations to be used, or (c) varying the magnitude or the types of numbers to be used.

Example Item 2A.4a (Grade 3):
Primary Target 2A (Content Domain MD), Secondary Target 1D (CCSS, 3.OA.D), Tertiary Target 1J (CCSS 3.MD.D)

This quadrilateral has a perimeter of 680 centimeters.

145 cm   180 cm

125 cm n
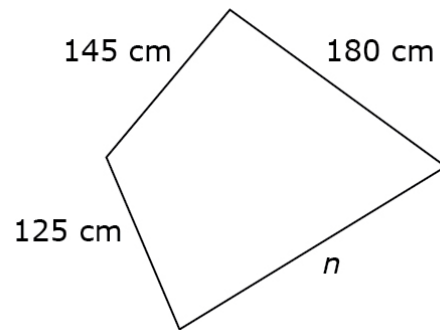
Enter the length, in centimeters, of side n.

Rubric: (1 point) The student correctly enters the length of the unknown side (230 or 230 cm).

Response Type: Equation/Numeric

Example Item 2A.4b (Grade 4):
Primary Target 2A (Content Domain OA), Secondary Target 1A (CCSS 4.OA.A)

Tina and Marco play a number game. Tina gives Marco a number and he does three computations.

- He multiplies the number by 2.
- He adds 7 to the answer.
- Then, he subtracts 2 from that answer.

What number should Tina give Marco so that the final answer is 37 ?
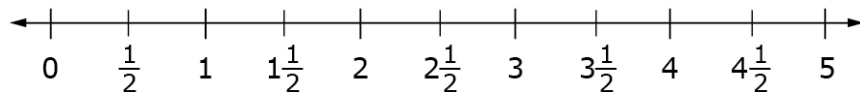

Rubric: (1 point) The student enters the correct number (16).

Response Type: Equation/Numeric

Example Item 2A.4c (Grade 4):
Primary Target 2A (Content Domain NF), Secondary Target 1G (CCSS 4.NF.B), Tertiary Target 2B

Plot the value of $5 \times \frac{1}{2}$ on the number line shown.

$$0 \quad \frac{1}{2} \quad 1 \quad 1\frac{1}{2} \quad 2 \quad 2\frac{1}{2} \quad 3 \quad 3\frac{1}{2} \quad 4 \quad 4\frac{1}{2} \quad 5$$

Rubric: (1 point) The student correctly plots a point at $2\frac{1}{2}$ (with a graphing tolerance of +/- $\frac{1}{16}$ or points snap to tick marks).

Response Type: Graphing (Interaction: The student is able to plot a single point somewhere on the line.)

Commentary: A variation on this item would show points on a number line and ask which one represents the product, or shows one point and asks which of four products it could be (MC). Asking for the approximate location on the number line for the results of computations would also be appropriate.

Example Item 2A.4d (Grade 5):
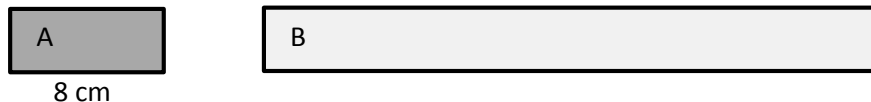Primary Target 2A (Content Domain NF), Secondary Target 1F (CCSS 5.NF.B)

Rectangle A (shown) is $\frac{1}{4}$ as long as rectangle B (not shown). How long is rectangle B?
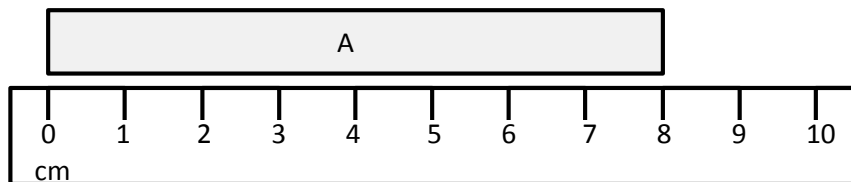
A. 2 cm
B. 6 cm
C. 8 cm
D. 32 cm

OR

Rectangle A is $\frac{1}{4}$ as long as rectangle B. How long is rectangle B?
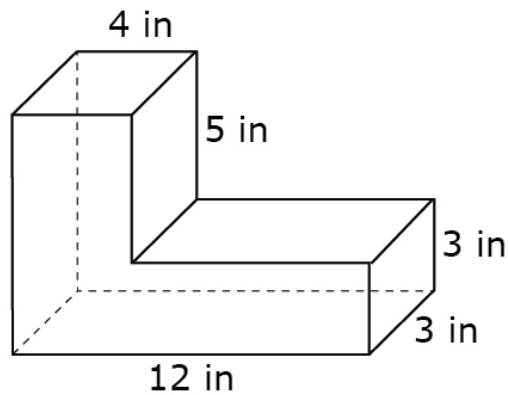

8 cm

A. 2 cm
B. 6 cm
C. 8 cm
D. 32 cm

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

Response Type: Multiple Choice, single correct response

Example Item 2A.4f (Grade 5):
Primary Target 2A (Content Domain MD), Secondary Target 1I (CCSS 5.MD.C)

The figure shown was created by joining two rectangular prisms.

What is the total volume, in cubic centimeters, of the figure?

Enter your answer in the response box.

Rubric: (1 point) The student correctly enters the total volume of the figure in cubic centimeters (168 or 168 cm^3).

Response Type: Equation/Numeric

Target 2B: Select and use appropriate tools strategically.

General Task Model Expectations for Target 2B

- Mathematical information from the context is presented in a table, graph, or diagram, or is extracted from a verbal description or pictorial representation of the context.
- The student uses tools or makes strategic selection of tools.
- Tasks may require the student to use a familiar tool in a non-standard way, for example using a ruler from a non-standard starting point or using a number line to represent time.
- Difficulty of the task may be adjusted by varying (a) the difficulty of extracting information from the context (b) the number of steps (c) the complexity of the numbers used or (d) the complexity of the interpretation required.
- Task has DOK Level 1 or 2

Task Model 2B.1

Expectations:
- The student demonstrates proficiency with a tool specifically identfied in the content standards.
- Tasks aligned to this task model focus on using tools (rather than selecting tools).
- Tools include measurement tools, such as rulers, protractors, and clocks, presented virtually, or number lines.
- Dimensions along which to vary the item include (a) varying the context, (b) varying the tool to be used, or (c) varying the complexity of the numbers to be used.

Example Item 2B.1a (Grade 4):
Primary Target 2B (Content Domain MD), Secondary Target 1G (CCSS 4.MD.C)

Use the protractor to find the measure of angle A.
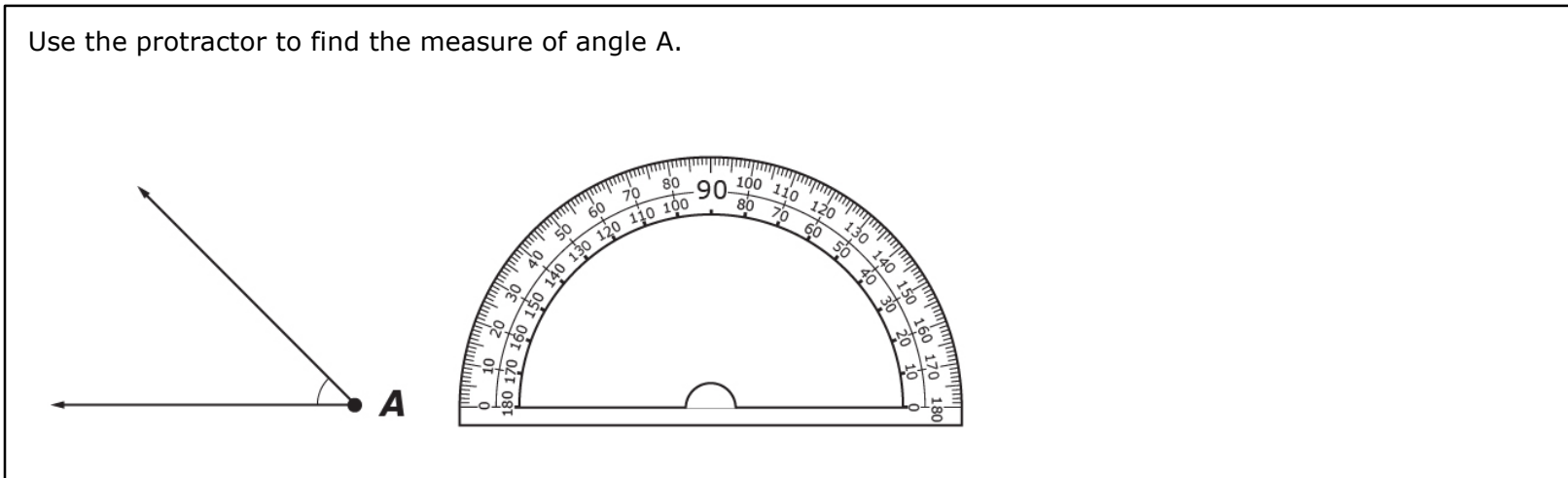
Enter the measure of angle A, to the nearest whole degree, in the response box.

Interaction: The student can move the protractor to any point on the screen and rotate the protractor to align it with a side of the angle. See an example for how this could work here:
http://sandcastle.kasandbox.org/media/castles/Khan:master/exercises/measuring_angles.html

Rubric: (1 point) Student enters the correct angle measure in degrees (45+/-?).

Response Type: Equation/numeric

Commentary: Note that this technology is not currently available. An item that could assess the same construct with current technology would show a protractor with an angle whose vertex is aligned to the center point of the angle but whose rays are not aligned to the 0 or 180 marks on the protractor. This item type would fall under task model 2B.

Example Item 2B.1b (Grades 5):
Primary Target 2B (Content Domain NF), Secondary Target 1J (CCSS 5.NF.B)

Plot the value of $\frac{1}{3}$ x $\frac{5}{2}$ on the number line below. Add more tick marks and make sure the point is on a tick mark.
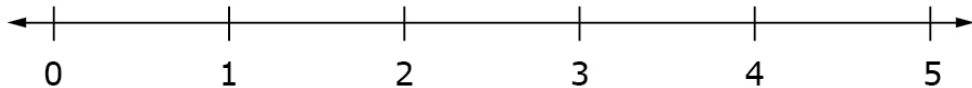
Interaction: The student sees a number line that has tick marks denoting the whole numbers. There is a slider or some other widget that allows the student to select the appropriate number of tick marks between whole numbers. See an example for how this could work here: https://www.youtube.com/watch?v=TEzH_PbHZIw

Rubric: (1 point) The student chooses a refinement of the number line that includes sixths and correctly plots a point at $\frac{5}{6}$ (with a graphing tolerance of +/- $\frac{1}{16}$ or there is a snap-to feature and points snap to tick marks).

Response Type: Graphing

Commentary: Note that this technology is not currently available. An item that could assess the same construct with current technology could show two or more number lines with different refinements and ask the student to use one to plot the product or to plot the product as close as possible to the correct location and have a tolerance around the location for scoring.

Task Model 2B.2

Expectations:
- The student uses a familiar tool in a non-standard way, in multi-step problem, or a problem that requires identifying quantities of interest and mapping the relationships between them.
- Dimensions along which to vary the item include (a) varying the context, (b) varying the type of operations to be used, or (c) varying the complexiy of the numbers to be used (d) varying the complexity of the interpretation required.

Example Item 2B.2a (Grade 4):
Primary Target 2B (Content Domain MD), Secondary Target 1G (CCSS 4.NF.B), Tertiary Target 1H (CCSS 3.MD.B)

What is the length, in inches, of the pencil shown?
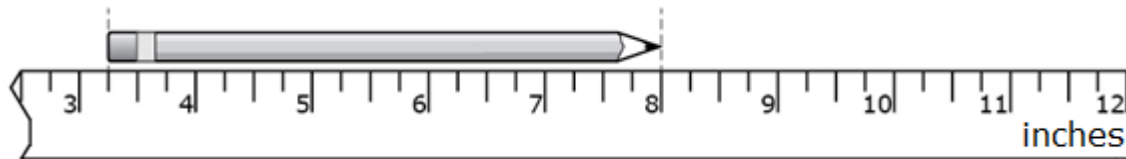
Enter your answer in the response box.

Rubric: (1 point) The student enters the correct length in inches ($4\frac{3}{4}$).
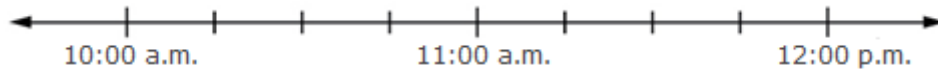
Response Type: Equation/Numeric

Example Item 2B.2b (Grade 3):
Primary Target 2B (Content Domain MD), Secondary Target 1G (CCSS 3.MD.A), Tertiary Target 2D

Math class begins at 10:45 a.m. and is 45 minutes long.

Use the Add Point tool to put a point on the number line that shows when math class ends.

Rubric: (1 point) Student places a point on the number line at the correct location (11:30 p.m.).

Response Type: Graphing

Scoring/Interaction: Scoring/interaction must allow for point to "snap to" tick marks or allow for a tolerance of +/- 5 minutes on the number line.

Commentary: This item requires the student to identify the start time, end time, and elapsed time as quantities of interest and map the relationship between them using the number line, and so draws on the skill set identified in Target 2D.

Example Item 2B.2c (Grade 3):

Primary Target 2B (Content Domain MD), Secondary Target 1G (CCSS 3.MD.A), Tertiary Target 2D

Mary started her homework 25 minutes before the time shown on the clock.

Fill in the table to show the time when Mary started her homework.

```
___ :___
```

Rubric: (1 point) The student shows the correct time (4:25).

Response Type: Fill-in-table

Commentary: This item requires the student to identify the start time, end time, and elapsed time as quantities of interest and map the relationship between them, and so draws on the skill set identified in Target 2D.

Task Model 2B.3

Expectations:
- The student makes strategic choices about using tools.
- The student has access to a tool that is more appropriate for some problems than others. The student may choose to use the tool or not.
- Dimensions along which to vary the item include: (a) varying the context, (b) varying the tool to be used, (c) varying the complexity of the numbers to be used.

Example Item 2B.3b (Grade 3):
Primary Target 2B (Content Domain MD), Secondary Target 1G (CCSS 3.MD.C)

Order all three figures so that the one on the left has the largest perimeter and the one on the right has the smallest perimeter.

Drag each figure into the space in order of its perimeter.

Largest Perimeter.....>.....>.....Smallest Perimeter

Rubric: (1 point) The student correctly orders the figures with the square first, the triangle second, and the rectangle third.

Response Type: Drag and drop.

Interaction: A GI background is given with active measuring and drawing tools. All three figures are presented in the bottom non-refreshable palette and the student must drag each figure into a correct arrangement, largest to smallest perimeter.

Commentary: The student has the choice of using the ruler in the Drawing and Measurement Tool or judging the perimeter without the use of tools. Strategic choices will make it easier for them to complete this item. It can be established that the rectangle has the largest perimeter by direct comparison, but it is harder to compare the perimeters of the square and the triangle without measuring the side-lengths.
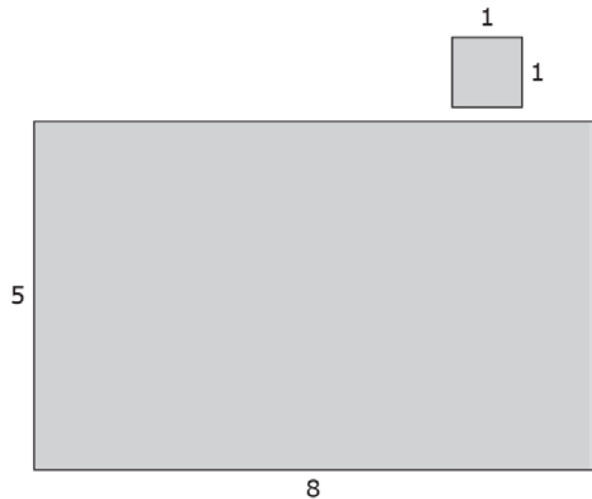
Example Item 2B.3a (Grade 3):
Primary Target 2B (Content Domain MD), Secondary Target 1G (CCSS 3.MD.C)

What is the area of each figure?
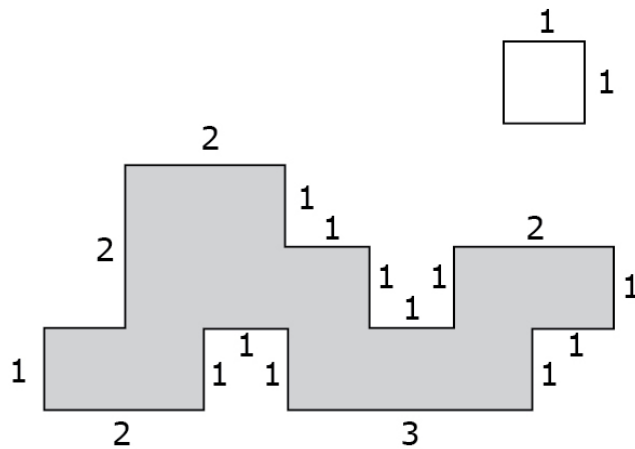
Figure A

The area of Figure A is [   ] square units.

Figure B

The area of Figure B is [   ] square units.

See how the interface might work here: https://www.youtube.com/watch?v=EVoKzudbrE4

Rubric: (2 points) The student enters the correct area for each figure, 1 point for each (12 and 40).

Response Type: Equation/numeric with graphing and a combination of tiling and drag and drop as part of the unscored interaction.

Commentary: This item gives the student access to a tiling tool that can be used to cover a region with square units. The item has two parts, one where the tool can be profitably used to help the student keep track of the number of square units that are needed to cover the region without gaps or overlap, and one where knowing the relationship between the side-lengths and area of a rectangle is more efficient than using the tiling tool.

Target 2C: Interpret results in the context of a situation.

General Task Model Expectations for Target 2C

- The student provides a numeric answer to a problem where the context requires them to go beyond the result of a single computation.
- The student may be asked to choose a value that falls into a range of acceptable values limited by information given in a real-world context.
- The student may be asked to round up or round down based on the constraints of the context.
- The student may be asked to interpret the meaning of mathematical computations, for example, the different interpretations of arithmetic operations.
- The student may be asked to interpret the meaning of points on the number line or in the coordinate plane in a real-world context.
- The student may be asked to solve a problem that requires the integration of concepts and skills from multiple domains.
- Difficulty of the task may be adjusted by varying (a) the difficulty of extracting information from the context (b) the number of steps (c) the complexity of the numbers used or (d) the complexity of the interpretation required.
- Tasks have DOK Level 1 or 2.

**Task Model 2C.1**

Expectations:
- The student chooses one value from a range of possible values that is determined by constraints in a context.
- Dimensions along which to vary the item include (a) varying the context, (b) varying the type of operations to be used, or (c) varying the type of numbers to be used.
- Tasks in this model have DOK Level 2-3.

Example Item 2C.1a (Grade 3):
Primary Target 2C (Content Domain OA), Secondary Target 1A (CCSS 3.OA.A)

Steven is baking cupcakes. A cupcake pan has 3 rows with a place to put 4 cupcakes in each row.
He filled two pans completely and part of another pan.
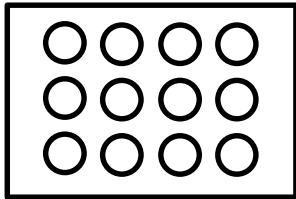
How many cupcakes could Steven have made? Enter your answer in the response box.

Rubric: (1 point) The student enters a whole number between 25 and 35, inclusive.

Response Type: Equation/Numeric

Example Item 2C.1b (Grade 4):
Primary Target 2C (Content Domain OA), Secondary Target 1G (CCSS 4.NF.B), Tertiary Target 2A (Content Domain NF).

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Jared is testing how much weight a bag can hold. He plans to put juice bottles into three bags. He wants each bag to have a total weight within the given range.

- Drag juice bottles into each bag so that the weight is within the given range.

- Leave the bag empty if the given range is not possible using juice bottles.

$3\frac{5}{8}$ lb

Delete ✕

Between 6 lb and 7 lb **Between 10 lb and 11 lb** **Between 14 lb and 15 lb**

Rubric: (2 point) The student enters the correct number of juice bottles for all three bags for 2 points or for two of the three bags for 1 point (no bottles, 3, 4).

Response Type: Drag and drop.

Example Item 2C.1c (Grade 5):
Primary Target 2C (Content Domain NF), Secondary Target 1E (CCSS 5.NF.A)

Janet has some money. She spends $\frac{1}{2}$ of her money on books. She spends some more money on videos.

Which number is a reasonable choice for the fraction of Janet's total money that she spends on books and videos?

    A. $\frac{2}{7}$

    B. $\frac{3}{5}$

    C. $\frac{3}{2}$

    D. $\frac{1}{2}$

Rubric: (1 point) The student enters the most reasonable choice (B).

Response Type: Multiple Choice, single correct response

Task Model 2C.2

Task Expectations:
- The student reports a number other than the direct result of the computations implied by the problem context because the context provides additional constraints on the allowable answers.
- Dimensions along which to vary the item include (a) varying the context, (b) varying the type of operations to be used, or (c) varying the type of numbers to be used.
- Tasks in this model have DOK Level 1 or 2.

Example Item 2C.2a (Grade 3)
Primary Target 2C (Content Domain OA), Secondary Target 1A (CCSS 3.OA.A)

Vera is making 6 picture frames. Each picture frame requires 8 craft sticks. Craft sticks are sold in packs of 10.

What is the **fewest** number of packs of craft sticks Vera can buy to get the total she needs?

Enter your answer in the response box.

Rubric: (1 point) The student enters the correct number of packs (5).

Response Type: Equation/Numeric

Example Item 2C.2b (Grade 4):
Primary Target 2C (Content Domain OA), Secondary Target 1A (CCSS 4.OA.A)

There are 70 students traveling to a soccer tournament. All of the vans can take 9 students each.

How many vans are needed to take all of the students to the tournament?

Enter your answer in the response box.

Rubric: (1 point) The student enters the correct number of vans needed (8).

Response Type: Equation/Numeric

Example Item 2C.2c (Grade 5):
Primary Target 2C (Content Domain NF), Secondary Target 1F (CCSS 5.NF.B)

Carl feeds his dog $2\frac{1}{2}$ cups of dog food every day. Each bag contains 64 cups of dog food.

What is the **maximum** number of days that Carl can feed his dog exactly $2\frac{1}{2}$ cups of dog food from one full bag?

Enter your answer in the response box.

Rubric: (1 point) The student is able to determine the total number of servings in one bag of food and interpret the remainder as not being enough for another whole serving (25).

Response Type: Equation/Numeric

Example Item 2C.2d (Grade 5):
Primary Target 2C (Content Domain NBT), Secondary Target 1D (CCSS 5.NBT.B)

Scott is buying water bottles and apples for his soccer team. The cost of buying packs of water bottles and bags of apples is shown in the table.

Item	Cost
One pack of 6 water bottles	$4.80
One bag of 5 apples	$3.20

What is the **least** amount of money that he can spend on whole packs of water bottles and bags of apple so that all 18 players on his team can have both a bottle of water and an apple?

Enter your answer, in dollars, in the response box.

Rubric: (1 point) The student enters the correct minimum cost (27.20).

Response Type: Equation/Numeric

Task Model 2C.3

Expectations:
- The student is asked to interpret the meaning of symbolic statements in a real-world context.
- Dimensions along which to vary the item include (a) varying the context, (b) varying the type of operations to be used, or (c) varying the type of the numbers to be used.
- Tasks in this model have DOK Level 2.

Example Item 2C.3a (Grade 3):
Primary Target 2C (Content Domain OA), Secondary Target 1A (CCSS 3.OA.A)

Billy has 9 full cans of juice. He has 9×8 ounces of juice all together. What could the 8 mean?

    A. There are 8 ounces of juice in one full can.
    B. There are 8 people who want juice.
    C. He already drank 8 cans of juice.
    D. He spilled 8 ounces of juice.

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

Response Type: Multiple choice, single correct response

Example Item 2C.3b (Grade 4):
Primary Target 2C (Content Domain OA), Secondary Target 1A (CCSS 4.OA.A)

Najoo is 10 years old. Her pet turtle is 40 years old. How do their ages compare?

    A. Najoo is 4 years older than her turtle.
    B. Her turtle is 4 years older than Najoo.
    C. Najoo is 4 times as old as her turtle.
    D. Her turtle is 4 times as old as Najoo.

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

Response Type: Multiple choice, single correct response

Task Model 2C.4

Task Expectations:
- The student is asked to interpret the meaning of points on a number line or in the coordinate plane in a real-world context.
- Dimensions along which to vary the item include (a) varying the context or (b) varying the type of the numbers to be used.
- Tasks in this model have DOK Level 1 or 2.

Example Item 2C.4a (Grade 3):
Primary Target 2C (Content Domain NF), Secondary Target 1F (CCSS 3.NF.A)

Three friends ran a race. The points on the number line represent the race times, in seconds, for each friend.
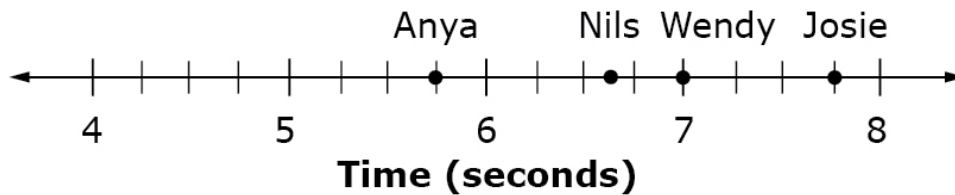
Who had the shortest time?

    A. Anya

    B. Nils

    C. Wendy

    D. Josie

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

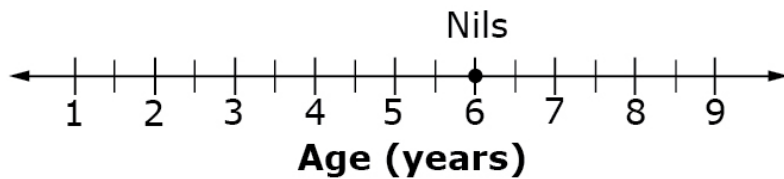**Response Type:** Multiple choice, single correct response

Example Item 2C.4b (Grade 3):
Primary Target 2C (Content Domain NF), Secondary Target 1F (CCSS 4.NF.C)

Hank is 8.5 years old. Nils' age in years is plotted on the number line shown.

Nils

Age (years)

How many years older is Hank than Nils?

Enter the number of years in the response box.

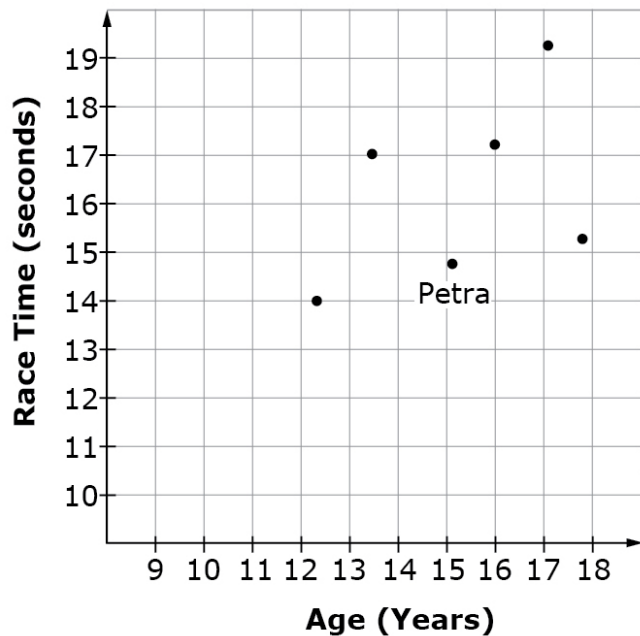**Rubric:** (1 point) The student enters the correct age difference (2.5 or 2 ½).

Response Type: Equation/numeric

Example Item 2C.4c (Grade 5):
Primary Target 2C (Content Domain G), Secondary Target 1J (CCSS 5.G.A)

Six students ran a race. The graph shows the ages and times of the six students.

What was Petra's time in seconds?

Rubric: (1 point) The student correctly identifies Petra's time (e.g., 14.8).
      Note: Accept a tolerance of +/- 0.2 seconds

Response Type: Equation/Numeric

Commentary: Variations on this item include comparing quantities that are represented by the coordinates of points on the graph or asking the student to plot a point that satisfies a given condition, for example, asking the student to plot a point for Wendy, who has a shorter race time than Petra.

Target 2D: Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).

Target 2D identifies a key step in the modeling cycle, and is thus frequently present in problems with real-world contexts. Note that Target 2D is rarely the primary target for an item, but is frequently a Secondary or Tertiary Target for an item with primary alignment to 2A, 2B, or 2C. See Items 1, 3, 4, and 5 in Task Model 1a, Item 1 in Task model 1d, and Items 2 and 3 in Task model 2a for examples that draw upon the skill set described in Target 2D.

General Task Model Expectations for Target 2D
- The student is presented with a mathematical problem in a real-world context where the quantities of interest are not named explicitly, are named but represented in different ways, or the relationship between the quantities is not immediately clear.
- The student is asked to solve a problem that may require the integration of concepts and skills from multiple domains.