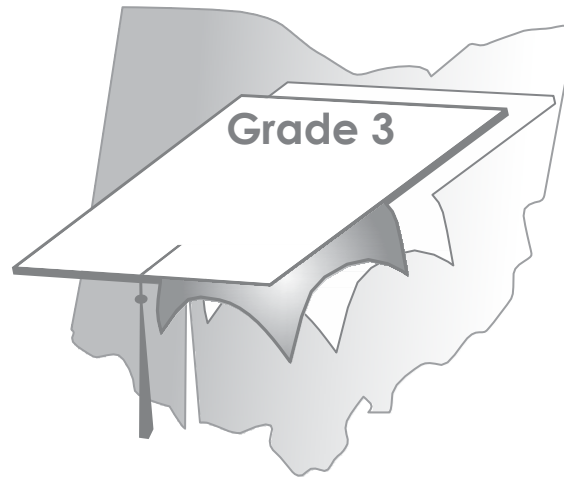


Alternate Assessment for Students with the Most Significant Cognitive Disabilities (AASCD)

Test Specifications



Grade 3 Mathematics

Introduction

The Test Specifications provide an overview of the structure and content of Ohio’s Alternate Assessment for Students with the Most Significant Cognitive Disabilities (AASCD). This overview includes a description of the test design as well as information on the items that will appear on the test. Also included is a test blueprint, a document that identifies the range and distribution of items grouped into various reporting categories. The specifications also provide specific guidelines for the development of all items used for Ohio’s AASCD. This document is a resource not only for item writers and test designers, but also for Ohio educators and other stakeholders who are interested in a deeper understanding of the test.

Test Design Overview

The AASCD is an online assessment designed to maximize access for students with the most significant cognitive disabilities and ensure that all students are included in Ohio’s statewide assessment and accountability programs. A student who qualifies for the AASCD is unable to participate in the state’s regular assessment, even with allowable accommodations. However, it is expected that the majority of students who take the AASCD will require supports and accessibility features to access or respond to the test. This is considered in the test design and the AASCD does allow for most student accommodations of any type. Accommodations are considered to be adjustments to the standard testing conditions, test format or test administration that provide equitable access to a student.

There are three test modes for the AASCD; online, supplemental and full paper. Supplemental braille materials are also available to be used with the supplemental and full paper test modes. Regardless of test mode, questions cannot be skipped and must be administered in the order they are presented. Tests are given at each individual grade level and consist of 50 questions per test. The questions are of varying complexity levels and all questions created for the AASCD align to Ohio’s Learning Standards-Extended.

Complexity Levels

The Ohio Learning Standards-Extended (OSL-E) include three levels from “most complex” to “least complex”. The complexity levels are comprised of three targets of varying difficulty aligned to each standard from the Ohio Learning Standards (OLS). The extensions are codified individually for clear designation. The last letter in the extension code indicates the complexity level: “a” denotes the highest level of complexity, “b” denotes the middle complexity level and “c” denotes the lowest complexity level. In some instances, the verb of the extension is tiered to increase or decrease the complexity level. In other cases, the concept or skill within the OLS is tiered across the three complexity levels. **It is important to move from left to right when reading the extensions.** To determine where instruction should begin, educators should start with the general standard and then progress down through the complexity levels until finding the optimum starting point. **It’s important to note that no one should categorize students according to an extension level.** Instead, instruction should build skills across the extensions to the highest level possible based on individual student strengths which may vary across standards. Ideally, when educators apply these extensions within each grade level, one should see instruction occurring at all ranges of complexity. When citing standards for lesson and/or assessment design, educators should include the full complexity range, including the general standard. Citing standards in this way acknowledges a range of entry points and a range of learning progressions.

Blueprints

Test blueprints serve as a guide for test construction and provide an outline of the content and skills to be measured on the test. They contain information about individual tests, including the reporting category, the learning standards included for each reporting category, the item range for each reporting category and total test items for each test.

Grade 3 Math			
Reporting Categories	Learning Standards*	Item Range	Total Test Items
Multiplication and Division	3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4, 3.OA.5, 3.OA.6, 3.OA.7, 3.OA.8, 3.OA.9, 3.NBT.3	9 - 13	40
Numbers and Operations	3.NBT.1, 3.NBT.2, 3.MD.1, 3.MD.2, 3.MD.3	8 - 11	
Geometry	3.MD.5, 3.MD.6, 3.MD.7, 3.MD.8, 3.G.1, 3.G.2	8 - 11	
Fractions	3.NF.1, 3.NF.2, 3.NF.3, 3.MD.4	8 - 11	

*All of the extensions for each learning standard are eligible for inclusion in the assessment.

Access Limitations

Blind and visually impaired students can be administered the AASCD online. These students should be marked in TIDE with a test mode of online (O) and also flagged in TIDE or the TA Interface as Yes under the Access Limited – Blind setting. Indicating Yes under this setting will prevent these students from receiving items on the online test that are flagged as access limited for blind or visually impaired students.

Items are flagged as access limited for blind or visually impaired students if a visual element that cannot be described with words is critical to answering the question. Items should only depend on visual elements where that is necessary to assess the extended standard.

Early-Stopping Rule

There may be instances where the district has not yet determined a student's mode of communication. For students that are unable to provide a discernible response to an item, the test administrator can select the "Mark as No Response" option from the context menu within the Student Interface for online and supplemental testers or in the Data Entry Interface (DEI) for paper testers.

The Student Interface and DEI have a built-in early stopping rule, which will automatically stop the test if the "Mark as No Response" option is submitted as the response for all four of the first four items for that test subject. Test administrators are still required to administer all other applicable subjects to a student even if the early stopping rule was enacted for another subject. If the student is able to provide a discernible response to at least one of the first four items for a test subject, the administrator should continue the assessment.

The first four items on every test mode are fixed and are low complexity items. Low complexity items are selected for the first four items to give students a chance to demonstrate that they can provide a response.

MATH Grade 3: Alternate Assessment Item Specifications

Content Area	Math		
Strand	OPERATIONS AND ALGEBRAIC THINKING		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	<p>3.OA.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. (Note: These standards are written with the convention that $a \times b$ means a groups of b objects each; however, because of the commutative property, students may also interpret 5×7 as the total number of objects in 7 groups of 5 objects each).</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	<p>3.OA.1a Represent products of whole numbers up to 10×10 using arrays, area models, or physical objects (whole numbers 0 through 10).</p>	<p>3.OA.1b Represent products with factors of 1s, 2s, 3s, 4s, 5s, and 10s using arrays, area models, or physical objects (whole numbers 1 through 10).</p>	<p>3.OA.1c Represent products with factors of 1s, 2s, and 5s using arrays, area models, or physical objects (whole numbers 1 through 10).</p>
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Multiplication products are within 100 (exclusive). • All factors are whole numbers. 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	Which model shows 8 times 6?
Moderate Complexity Level B	Which model shows 4 times 3?
Low Complexity Level C	Which model shows 2 times 5?

Content Area	Math		
Strand	Represent and solve problems involving multiplication and division.		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.OA.2a Represent quotients of single-digit whole numbers up to 100.	3.OA.2b Represent quotients using arrays, area models, or other physical representations for whole number factors of 1s, 2s, 3s, 4s, 5s, and 10s with products not exceeding 100.	3.OA.2c Represent quotients using arrays, area models, or other physical representations for whole numbers factors of 1s, 2s, and 5s with products not exceeding 10, 20, and 50, respectively.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Dividends up to 100 (exclusive). • Divisor, dividend, and quotients are all whole numbers. • Excludes division problems with remainders. 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	Which model shows 24 divided by 6?

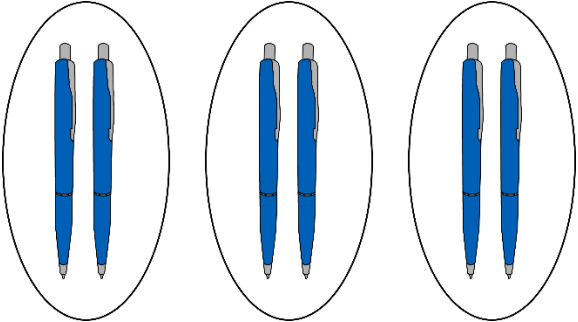
Moderate Complexity Level B	Which model shows 16 divided by 4?
Low Complexity Level C	Which model shows 8 divided by 2?

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	<p>3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	<p>3.OA.3a Solve word problems with products and/or quotients of whole numbers using arrays, area models, or other physical representations (whole numbers factors of 0 through 10).</p>	<p>3.OA.3b Solve word problems with products of whole numbers 1s, 2s, 3s, 4s, 5s, and 10s using arrays, area models, or other physical objects (products not exceeding 100).</p>	<p>3.OA.3c Represent word problems with products of whole number factors of 1s, 2s, and 5s using arrays, area models or other physical representations (whole numbers 1 through 10).</p>
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Dividends up to 100 (exclusive). • Multiplication facts up to 10 x 10 (exclusive). • Divisor, dividend, and quotients are all whole numbers. • Excludes division problems with remainders. 		


Sample Items	
<i>Item Models</i>	

High Complexity Level A	Tim and 6 friends are at the fair. They each win 4 prizes each. What is the total number of prizes they won?
Moderate Complexity Level B	Megan has 2 cats. She buys 3 toys for each cat. How many toys did Megan buy?
Low Complexity Level C	Tom has 2 dogs. He buys 2 new toys for each dog. How many toys does Tom buy?

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times \square = 48$; $5 = \square \div 3$; $6 \times 6 = \square$.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.OA.4a When given a physical or visual model representing a multiplication fact (whole number factors of 0 through 10 with products not exceeding 100) and a set of 3 answer choices, identify the unknown whole number.	3.OA.4b When given a physical or visual model representing a multiplication fact (whole number factors of 1s, 2s, 3s, 4s, 5s, and 10s with products not exceeding 100) and a set of 3 answer choices, identify the unknown whole number.	3.OA.4c Match a provided physical or visual model to one of three provided multiplication or division number sentences. AND When given a number sentence, identify the operations symbol for \div , \times , and $=$.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • All problems will only involve a multiplication or a division strategy. • Dividends up to 100 (exclusive). • Multiplication facts up to 10×10 (exclusive). • Divisor, dividend, and quotients are all whole numbers. • Excludes division problems with remainders . 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	A model of 72 dots divided into 6 equal groups. How many dots are in each group?
Moderate Complexity Level B	A model of 8 dots divided into 2 equal groups. How many dots are in each group?
Low Complexity Level C	Paul buys 3 pens packs of pens. Each pack has 2 pens.  Which number sentence shows how many pens Paul buys?

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	<p>3.OA.5 Apply properties of operations as strategies to multiply and divide. For example, if $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known (Commutative Property of Multiplication); $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$ (Associative Property of Multiplication); knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$ (Distributive Property). Students need not use formal terms for these properties.</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	<p>3.OA.5a Physically or visually solve multiplication or division number sentences (whole number factors of 0 through 10 with products not exceeding 100) using the commutative and/or distributive properties (e.g., solving 3×8 by adding 3×5 to 3×3).</p>	<p>3.OA.5b Physically or visually solve multiplication number sentences (whole number factors of 1s, 2s, 3s, 4s, 5s, and 10s with products not exceeding 100) using the commutative property.</p>	<p>3.OA.5c Physically or visually match multiplication number sentences using the commutative property.</p>
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • All problems will only involve a multiplication or a division strategy. • Dividends up to 100 (exclusive). • Multiplication facts up to 10×10 (exclusive). • Divisor, dividend, and quotients are all whole numbers. • Excludes division problems with remainders. • Excludes the requirement to know, recognize, or use the formal name of any property . 		
Sample Items			
<i>Item Models</i>			

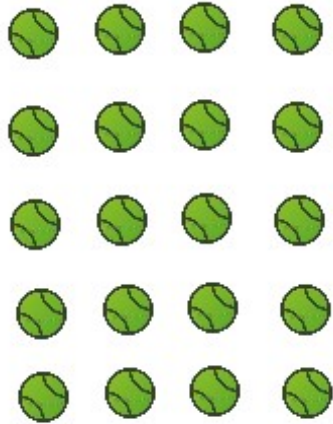
High Complexity Level A	<p>What expression is equal to 4×7?</p> <p>Options are expressions using the communitive or distributive property.</p>
Moderate Complexity Level B	<p>Below is a picture of 1×7.</p>  <p>Which picture is equal to 1×7?</p>
Low Complexity Level C	<p>Here is a number sentence.</p> <p>$6 \times 5 = 30$</p> <p>Which number sentence is true?</p> <p>Options are multiplication equations using the same numbers with the key using the communitive property.</p>

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	3.OA.6 Understand division as an unknown factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.OA.6a Understand that the inverse operation of division is multiplication. Can answer a multiplication question to solve for division (What times 3 equals 15?). Then solve the division problem (understand that 3 groups of 5 equals 15).	3.OA.6b Understand division as the inverse operation of multiplication by sorting objects or pictures into equal groups and matching multiplication/division problems ($3 \times 5 = 15$, $15 \div 3 = 5$).	3.OA.6c Show division as sorting objects or pictures into equal groups.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Products limited to less than 100. • Multiplication facts up to 10×10 (exclusive). • Dividends up to 100 (exclusive). • Divisor, dividend, and quotients are all whole numbers. • Excludes division problems with remainders. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

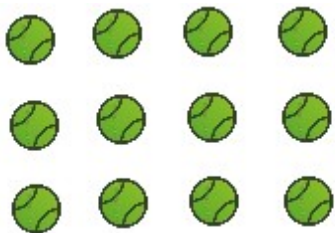
This diagram shows $5 \times 4 = 20$.



What is $20 \div 4$?

Moderate Complexity Level B

This diagram shows $3 \times 4 = 12$.



Which diagram can be used to show $12 \div 4 = 3$?

Low Complexity Level C

Which diagram shows 10 divided into 5 equal parts?

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division, e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$, or properties of operations. Limit to division without remainders. By the end of grade 3, know from memory all products of two one-digit numbers.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.OA.7a Fluently know all products (whole number factors of 0 through 10) and their respective division problems.	3.OA.7b Fluently know all products for whole number factors of 1s, 2s, 3s, 4s, 5s, and 10s with products not exceeding 100.	3.OA.7c Solve multiplication number sentences for multiples of 1s, 2s, and 5s (whole numbers 1 through 10) using arrays, area models, or other physical representations.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Quantities are limited to less than 100. • Dividends up to 100 (exclusive). • Multiplication facts up to 10×10 (exclusive). • Divisor, dividend, and quotients are all whole numbers • Excludes division problems with remainders 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	What is $48 \div 8$?

Moderate Complexity Level B	What is 4 x 5?
Low Complexity Level C	What is 5 x 2?

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	<p>3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter or a symbol, which stands for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. This standard is limited to problems posed with whole numbers and having whole-number answers. Students may use parentheses for clarification since algebraic order of operations is not expected.</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	<p>3.OA.8a Represent a 2-step problem using an equation with a symbol (e.g., shape) standing for the unknown and solve.</p>	<p>3.OA.8b Identify the array, area model, or other physical representation that shows the solution of a 1-step number sentence from a word problem (excludes division).</p>	<p>3.OA.8c Identify the number sentence that correlates with a given 1-step word problem (excludes division).</p>
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Dividends up to 100 (exclusive). • Multiplication facts up to 10 x 10 (exclusive). • Divisor, dividend, and quotients are all whole numbers . • Excludes division problems with remainders. • Excludes formal use of algebraic order of operations. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A	<p>Here is an equation.</p> $8 + 5 - 3 = \square$ <p>What is the missing number?</p>
Moderate Complexity Level B	<p>Singh has 5 erasers. His brother gives him 4 more.</p> <p>Which number line shows how to solve the problem?</p>
Low Complexity Level C	<p>Michael has 3 markers. He finds 2 more markers.</p> <p>Which number sentence shows how to solve the problem?</p>

Content Area	Math		
Strand	Operations and Algebraic Thinking		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.OA.9a Identify and explain arithmetic patterns in a number chart or addition and multiplication tables.	3.OA.9b Identify arithmetic patterns in a number chart, or addition and multiplication tables.	3.OA.9c Use odd or even numbers to identify/make a pattern using repeated addition within a 100s chart.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Terms in patterns should be whole numbers less than 100. • Limited to addition table or multiplication table patterns. 		

Sample Items			
<i>Item Models</i>			

High Complexity Level A

Here is a table.

1 x 4	4
2 x 4	8
3 x 4	12
4 x 4	16

What pattern is shown in the table?

Moderate Complexity Level B

Identify the pattern that shows the multiples of 4.

A.

1 x 2	2
2 x 2	4
3 x 2	6
4 x 2	8

B.

1 x 3	3
2 x 3	6
3 x 3	9
4 x 3	12

C.

1 x 4	4
2 x 4	8
3 x 4	12
4 x 4	16

Low Complexity Level C

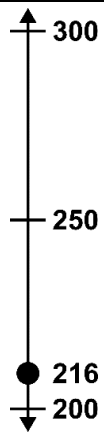
Here is a pattern.

2, 4, 6, 8, 10, __

Is the next number in the pattern even or odd?

Content Area	Math		
Strand	Number and Operations in Base Ten		
Reporting Category	Numbers and Operations		
Gen-Ed Standard	3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.NBT.1a Use place value understanding and a physical and/or visual representation to round multi-digit whole numbers to the nearest 10 or 100.	3.NBT.1b Identify a given number to the nearest 10s place when using number lines and/or number grids (e.g., 22 will round to 20).	3.NBT.1c Using a physical or visual representation for numbers 0 through 10, when shown two numbers, show which number is closer to 0 or 10 (e.g., shown 5 or 6, student is asked which number shown is closer to 10).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Numbers are limited to positive, whole numbers less than 1,000. • Rounding limited to nearest 10 and 100. 		

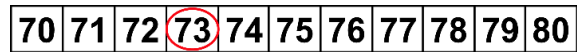
Sample Items	
<i>Item Models</i>	
High Complexity Level A	Here is a number line.



What is 216 rounded to the nearest hundred?

Moderate Complexity Level B

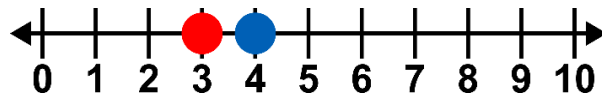
Here is a line from a number grid.



What is 73 rounded to the nearest ten?

Low Complexity Level C

Here is a number line that starts at zero and ends at ten. There are markers on numbers 3 and 4.



Which number is closer to 0?

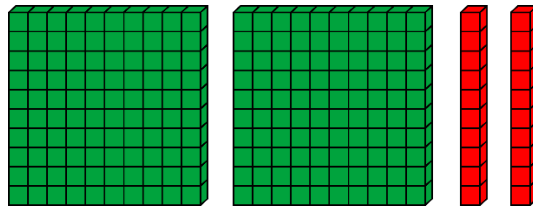
Content Area	Math		
Strand	Number and Operations in Base Ten		
Reporting Category	Numbers and Operations		
Gen-Ed Standard	3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.NBT.2a Add and subtract within 500 using strategies based on place value, and the relationship between addition and subtraction (no calculator).	3.NBT.2b Add and subtract within 100 using strategies based on place value, and the relationship between addition and subtraction (no calculator).	3.NBT.2c Add and subtract within 20 using strategies based on place value, and the relationship between addition and subtraction (no calculator, but could include concrete objects or number charts).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Addition and subtraction limited to whole numbers • Excludes requirement to know, recognize, or use the formal name of any property or strategy based on place value. 		

Sample Items	
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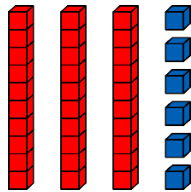
Item Models

High Complexity Level A

Here is the number 240.



Here is the number 36.

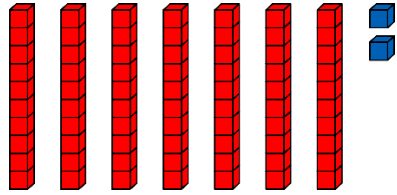


Which model shows $240 - 36$?

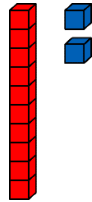
Options are in base ten blocks, not the equation modeled.

Moderate Complexity Level B

Here is the number 72.



Here is the number 12.



Which model shows $72 + 12$?

Options are in base ten blocks, not the equation modeled.

Low Complexity Level C

Here is the number 8.



Here is the number 7.



Which model shows $8 + 7$?


Options are in base ten blocks, not the equation modeled.


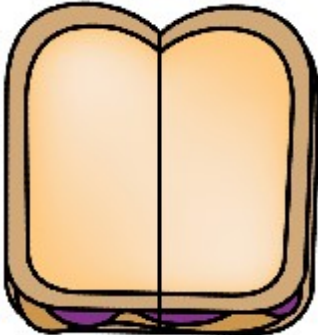
Content Area	Math		
Strand	Number and Operations in Base Ten		
Reporting Category	Multiplication and Division		
Gen-Ed Standard	3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range of 10–90, e.g., 9×80 , 5×60 , using strategies based on place value and properties of operations.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.NBT.3a Multiply one-digit whole numbers by multiples of 10 using visual and/or physical representation.	3.NBT.3b Multiply one-digit whole numbers by 10 (e.g., $3 \times 10 = 30$).	3.NBT.3c When shown a number sentence of one-digit whole number multiplied by 10, match the product to the number sentence when shown 2 possible products (e.g., $5 \times 10 = 50$ or 80).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • One factor must be a multiple of 10. 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	<p>Heather and her 8 friends have 10 books each.</p> <p>How many books do they have all together?</p>

Moderate Complexity Level B	What is 7×10 ?
Low Complexity Level C	What is 3×10 ?

Content Area	Math		
Strand	Number and Operations – Fractions		
Reporting Category	Fractions		
Gen-Ed Standard	3.NF.1 Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.NF.1a Match fractions with their model (limit to fractions with denominators of 2, 3, 4, 6, 8).	3.NF.1b Match fractions with their model (limit to $1/3$, $2/3$, $1/4$, $1/2$, and $3/4$).	3.NF.1c Identify a unit fraction ($1/4$ or $1/2$) as part of a whole when shown as a physical and/or visual representation.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Excludes mixed numbers. 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	<p>Here is a rectangle.</p>  <p>How much of the rectangle is shaded?</p>

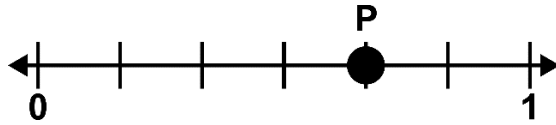
Moderate Complexity Level B	<p>Here is a rectangle that is divided into 3 equal parts. Two parts shaded.</p>  <p>Which fraction is shaded?</p>
Low Complexity Level C	<p>Here is a sandwich that is cut into two equal parts.</p>  <p>Which fraction is one part of the sandwich?</p>

Content Area	Math		
Strand	Number and Operations – Fractions		
Reporting Category	Fractions		
Gen-Ed Standard	<p>3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.</p> <p>a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.</p> <p>b. Represent a fraction a/b (which may be greater than 1) on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.NF.2a Identify fractions on a number line marked in equal parts matching the fraction denominator (limit to fractions with denominators of 2, 3, 4, 6, 8).	3.NF.2b Identify fraction(s) on a number line marked in equal parts matching the fraction(s)' denominator (limit to denominators of 2, 3 and 4).	3.NF.2c Identify a fraction on a number line marked in equal parts matching the fraction denominator (limit to $1/2$ and $1/4$).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Excludes mixed numbers. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

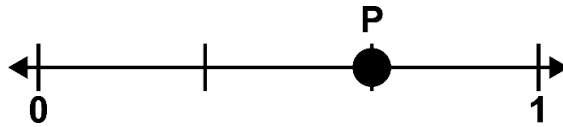
Here is a number line divided into 6 equal parts. The number line starts at zero and ends at one. Point P is on the tick mark that marks the 4th equal part on the number line.



Which fraction is shown by point P?

Moderate Complexity Level B

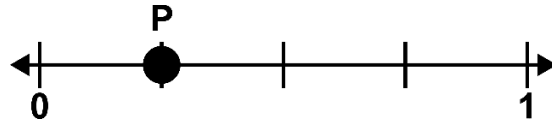
Here is a number line divided into 3 equal parts. The number line starts at 0 and ends at 1. Point P is on the tick mark that marks the 2nd equal part out of three on the number line.



Which fraction is shown by point P?

Low Complexity Level C

Here is a number line divided into 4 equal parts. The number line begins at 0 and ends at 1. Point P is on the tick mark that marks the 1st of four equal parts on the number line.



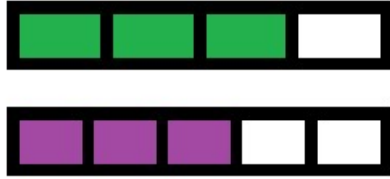
Which fraction is shown by point P?

Content Area	Math		
Strand	Number and Operations – Fractions		
Reporting Category	Fractions		
Gen-Ed Standard	<p>3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size or the same point on a number line.</p> <p>b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.</p> <p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.NF.3a Use a visual fraction model to identify greater than, less than, and equal to when comparing 2 fractions.	3.NF.3b Use visual fraction models to identify equivalent fractions with denominators of 2, 4, 6, and 8.	3.NF.3c Identify equivalent fractions of $1/2$ and $1/4$ when represented with visual fraction models (e.g. matching model of $1/2$ and $2/4$ on a number line).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Limited to fractions with denominators of 2, 3, 4, 6, 8 . Area models (e.g. circles, rectangles, squares, etc.) and length models (e.g. number lines, fraction strips or bars) may be used to represent fractions . Excludes mixed numbers. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

Here is a model of $\frac{3}{4}$ and $\frac{3}{5}$.

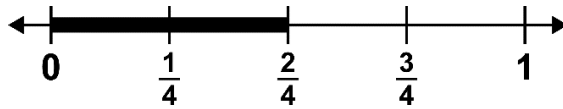


Which statement about the models is true?

Options are inequalities using the fractions modeled.

Moderate Complexity Level B

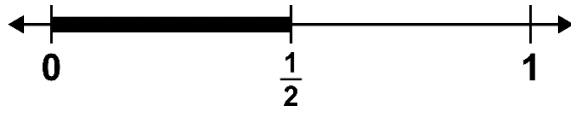
Here is a number line divided into 2 equal parts with the first part shaded.



Which number line shows a fraction with the same value?

Low Complexity Level C

Here is a number line divided into 2 equal parts with one part shaded.



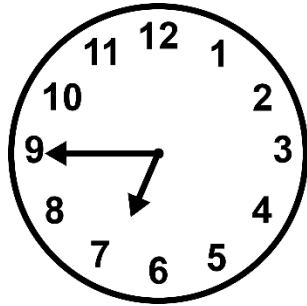
Which number line shows a fraction with the same value?

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Numbers and Operations		
Gen-Ed Standard	<p>3.MD.1 Work with time and money.</p> <p>a. Tell and write time to the nearest minute. Measure time intervals in minutes (within 90 minutes). Solve real-world problems involving addition and subtraction of time intervals (elapsed time) in minutes, e.g., by representing the problem on a number line diagram or clock.</p> <p>b. Solve word problems by adding and subtracting within 1,000, dollars with dollars and cents with cents (not using dollars and cents simultaneously) using the \$ and ¢ symbol appropriately (not including decimal notation).</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	<p>3.MD.1a1 Tell time to the nearest 15 minutes on an analog clock.</p> <p>AND</p> <p>3.MD.1a2 Name and/or identify equivalent combinations of coins and/or bills.</p>	<p>3.MD.1b1 Tell time to the nearest 30 minutes on an analog clock.</p> <p>AND</p> <p>3.MD.1b2 Identify, name, and state value for all coins and bills (coins: pennies, nickels, dimes, quarters; bills: \$1, \$5, \$10, \$20).</p>	<p>3.MD.1c1 Tell time to the nearest hour on an analog clock.</p> <p>AND</p> <p>3.MD.1c2 Identify and name all coins and bills.</p>
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> All items contain visual representations of objects or models. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

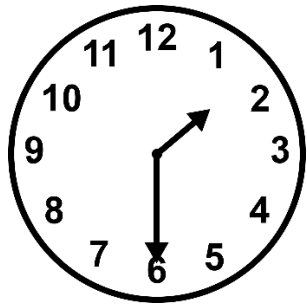
Here is a clock.



What time does the clock show?

Moderate Complexity Level B

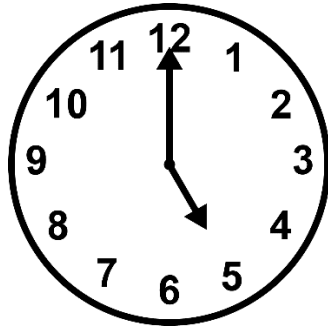
Here is a clock.



What time does the clock show?

Low Complexity Level C

Here is a clock.



What time does the clock show?

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Numbers and Operations		
Gen-Ed Standard	<p>3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams, kilograms, and liters. Add, subtract, multiply, or divide whole numbers to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Excludes multiplicative comparison problems involving notions of "times as much"; see Table 2, page 96.</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	<p>3.MD.2a Solve 1-step word problems involving measures of liquid volumes and masses of objects using standard units of measure.</p>	<p>3.MD.2b Using models and drawings, measure and estimate liquid volumes and masses of objects using standard units of measure (e.g., measuring cup, scale).</p>	<p>3.MD.2c Select the appropriate tool to measure volume and mass (e.g., measuring cup, scale).</p>
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Measurement units limited to grams, kilograms, and/or liters. • Limited to whole number units. • Excludes unit conversions. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A	<p>A baker needs 30 kilograms of flour to make cakes. He already has 10 kilograms.</p> <p>How many more kilograms of flour does he need?</p>
Moderate Complexity Level B	<p>Brad fills a jug with 6 liters of water.</p> <p>Which image shows the correct amount of water Brad put in the jug?</p>
Low Complexity Level C	<p>Cora needs to add water to her cake mix.</p> <p>Which tool can Cora use to measure the water?</p>

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Numbers and Operations		
Gen-Ed Standard	3.MD.3 Create scaled picture graphs to represent a data set with several categories. Create scaled bar graphs to represent a data set with several categories. Solve two-step “how many more” and “how many less” problems using information presented in the scaled graphs. For example, create a bar graph in which each square in the bar graph might represent 5 pets, then determine how many more/less in two given categories.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.MD.3a Create scaled bar (or picture) graph from given or collected data sets and interpret the graph, including solving 1-step (e.g., “how many more” “how many less” problems).	3.MD.3b Identify quantities from a picture or bar graph (e.g., in a class graph representing pets, represent 4 cats with 4 blocks or 4 cat pictures and 2 hamsters with 2 blocks or pictures).	3.MD.3c Sort data on a bar graph (e.g., weather– sunny, cloudy, rainy, snowy)
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Limited to graphs with up to 4 categories of data. 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	<p>The bar graph shows the number of ants in farm A and farm B. Each picture of an ant is 8 ants.</p> <p>How many more ants are there in farm A than in farm B?</p>

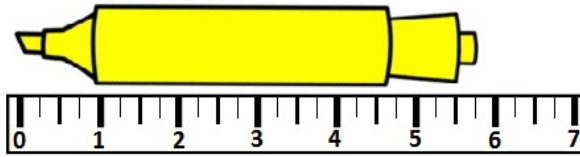
Moderate Complexity Level B	The bar graph shows the number of ants in farm A and farm B. Each picture of an ant is 8 ants. How many ants are in farm A?
Low Complexity Level C	Which bar graph shows that Mary has 4 puppies?

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Fractions		
Gen-Ed Standard	3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by creating a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.MD.4a Measure objects using a ruler to the nearest fourth of an inch.	3.MD.4b Measure objects using a ruler to the nearest half inch.	3.MD.4c Measure objects using a ruler to the nearest inch.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Images of rulers will be provided. • Limited to inches. • Limited to fractions of halves and fourths. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

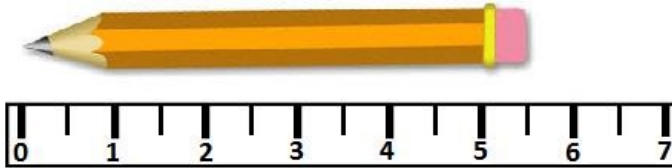
Kate wants to measure her highlighter. She uses a ruler marked in inches.



How long is the highlighter?

Moderate Complexity Level B

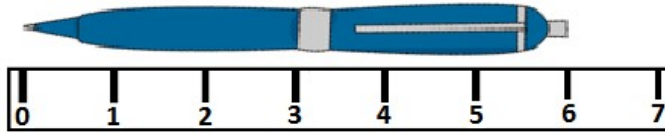
Seth wants to measure his pencil. He uses a ruler marked in inches.



How long is the pencil?

Low Complexity Level C

Molly wants to measure her pen. She uses a ruler marked in inches.



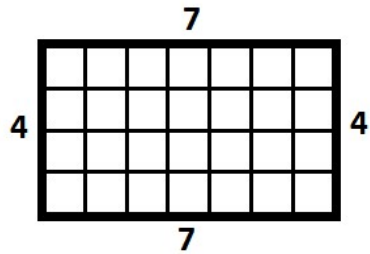
How long is the pen?

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Geometry		
Gen-Ed Standard	<p>3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.</p> <p>a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.</p> <p>b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.MD.5a Recognize the number of units in a given surface area represents an array multiplication problem.	3.MD.5b Understand that an equal-sided square can represent 1 unit of measure and can be counted to determine the area of a plane figure.	3.MD.5c Understand that the term "area" is related to measurement of a surface.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Limited to unit squares of whole numbers less than 100. • Excludes use of exponential notation. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

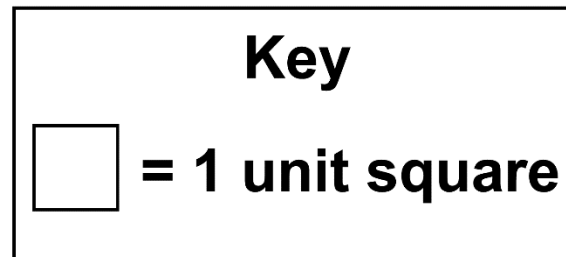
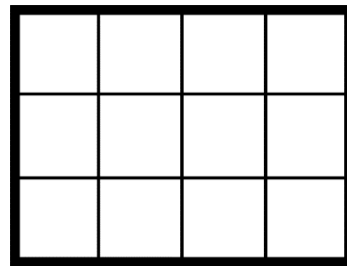
Here is a rectangle.



Which number sentence shows the number of square units inside of the rectangle?

Moderate Complexity Level B

Here is a rectangle filled with unit squares.



What measurement can be found by counting the unit squares?

Low Complexity Level C

Here is a rectangle.



What measure finds the space inside the rectangle?

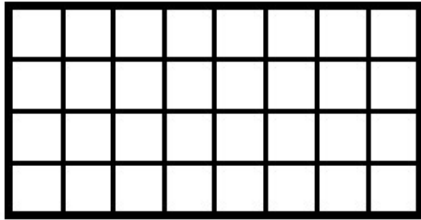
- A. Area
- B. Capacity

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Geometry		
Gen-Ed Standard	3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.MD.6a Find the area of rectangles with whole-number side lengths by counting unit squares (limit area up to 40).	3.MD.6b Find the area of rectangles with whole-number side lengths by counting unit squares (limit to factors of 1s, 2s, 3s, 4s, 5s, and 10s with products not exceeding 30).	3.MD.6c Find the area of rectangles with whole number side lengths by counting unit squares (limit factors of 1s, 2s, and 5s and areas up to 20).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Limited to whole number lengths. Excludes use of exponential notation. 		

Sample Items	
<i>Item Models</i>	

High Complexity Level A

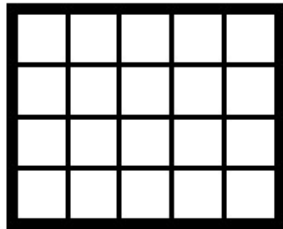
Here is a rectangle.



What is the area of the rectangle?

Moderate Complexity Level B

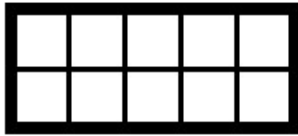
Here is a rectangle.



What is the area of the rectangle?

Low Complexity Level C

Here is a rectangle.



What is the area of the rectangle?

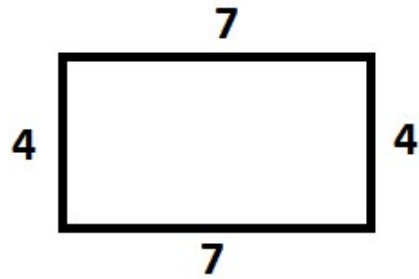
Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Geometry		
Gen-Ed Standard	<p>3.MD.7 Relate area to the operations of multiplication and addition.</p> <p>a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.</p> <p>b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.</p> <p>c. Use tiling to show in a concrete case that the area of a rectangle with whole number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$ (represent the distributive property with visual models including an area model).</p> <p>d. Recognize area as additive. Find the area of figures composed of rectangles by decomposing into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.</p>		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.MD.7a Given the side length measures for a rectangle, find the area (whole number factors with areas limited to 40).	3.MD.7b Given a visual model of a tiled rectangle, identify a number sentence (repeated addition or multiplication) that represents a solution for finding the area (whole number factors with areas limited to 30).	3.MD.7c Use tiling to cover the area of a square and count the tiles (unit squares) to find the area (whole number factors with areas limited to 20).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Limited to rectangular figures. Excludes use of exponential notation. 		

Sample Items

Item Models

High Complexity Level A

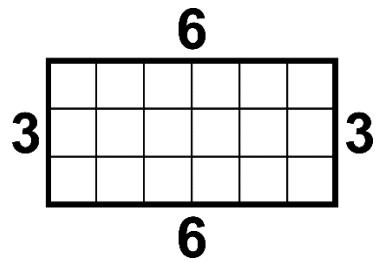
Here is a rectangle.



What is the area of the rectangle?

Moderate Complexity Level B

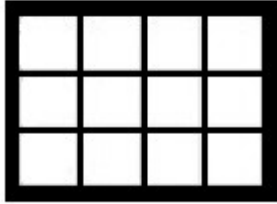
Here is a rectangle.



Which number sentence shows the area of the rectangle?

Low Complexity Level C

Here is a rectangle.



What is the area of the rectangle?

Content Area	Math		
Strand	Measurement and Data		
Reporting Category	Geometry		
Gen-Ed Standard	3.MD.8 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.MD.8a Solve one-step measurement word problems involving shapes with the same area and different perimeters.	3.MD.8b Solve addition or subtraction measurement word problems involving perimeter.	3.MD.8c Solve addition measurement problems by finding the perimeter of a rectangle represented on a grid.
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Limited to triangles and quadrilaterals. 		

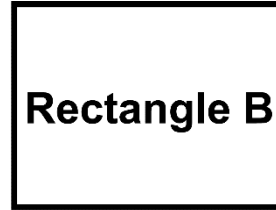
Sample Items	
<i>Item Models</i>	

High Complexity Level A

Here are two rectangles. Rectangle A has a perimeter of 16 units and Rectangle B has a perimeter of 14 units.



Perimeter = 16 units

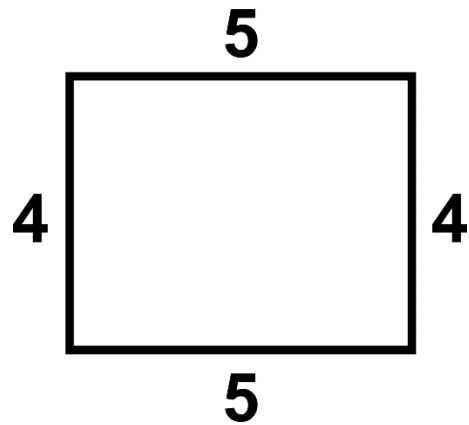


Perimeter = 14 units

How much larger is the perimeter of Rectangle A than Rectangle B?

Moderate Complexity Level B

Here is a garden with side lengths in feet (ft).

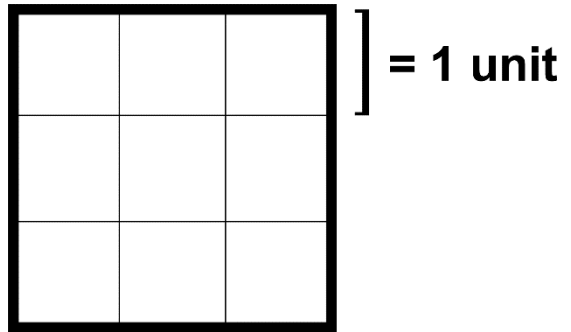


Jenny wants to put a fence around the garden.

How many feet of fencing does Jenny need?

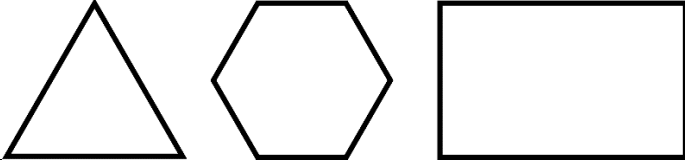
Low Complexity Level C

Here is a square.



What is the perimeter of the square?

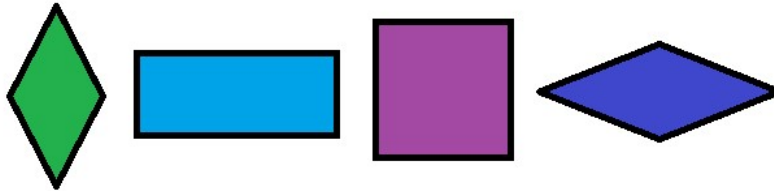
Content Area	Math		
Strand	Geometry		
Reporting Category	Geometry		
Gen-Ed Standard	3.G.1 Draw and describe triangles, quadrilaterals (rhombuses, rectangles, and squares), and polygons (up to 8 sides) based on the number of sides and the presence or absence of square corners (right angles).		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.G.1a Sort quadrilaterals by the number of sides and/or the presence or absence of square corners (right angles) (limit quadrilaterals to rectangles, squares, and rhombuses).	3.G.1b Sort polygons with up to 8 sides by the number of sides (Limit quadrilaterals to rectangles, squares and rhombuses).	3.G.1c Match objects in the environment to their two-dimensional shape based on the number of sides (e.g., match a stop sign in the real world to an octagon shape).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> • Limited to polygons of up to 8 sides. • Limited to quadrilaterals of rectangles, squares, and rhombuses 		

Sample Items	
<i>Item Models</i>	
High Complexity Level A	<p>Here is a group of shapes</p> 

Which shape has right angles?

Moderate Complexity Level B

Here is a group of shapes. The shapes have the same number of side lengths.



Which shape also belongs in this group?

Low Complexity Level C

Here is a road sign.

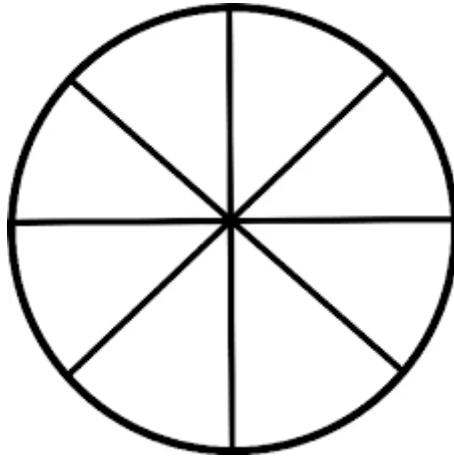


What shape is the road sign?

Content Area	Math		
Strand	Geometry		
Reporting Category	Geometry		
Gen-Ed Standard	3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.		
Extensions	Extension A: High Complexity	Extension B: Moderate Complexity	Extension C: Low Complexity
	3.G.2a Partition rectangles into two, three, or four equal parts; identify a part as $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$.	3.G.2b Partition rectangles into two or four equal parts, identify the parts as “halves,” “quarters,” and whole.	3.G.2c Count the number of sections in a rectangle that has been divided into equal parts (limit to half and quarter).
<i>The Standard, Extensions and Text Characteristics support the following task demands:</i>			
Content Limits	<ul style="list-style-type: none"> Limited fractions of halves, thirds and fourths. Limited to rectangular models for all items. 		

High Complexity Level A

Here is a round pizza cut into 8 equal slices.



Which fraction of the pizza is one slice?

Moderate Complexity Level B

Here is a rectangle.



Which word describes the parts of the rectangle?

Low Complexity Level C

Here is a rectangle.



How many equal parts make up this rectangle?