Draft Mathematics Extensions
for Aligning the New York State Alternate Assessment (NYSAA)
to the Common Core State Standards (CCSS)

GRADE 4

CCSS Domain: Geometry		**Page(s):** 29
CCSS Code	**Cluster (including Standard(s) within the Cluster)**	**Essence of Cluster**
4.G	**Draw and identify lines and angles, and classify shapes by properties of their lines and angles.** 1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. 2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. 3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	Create and classify lines and figures based on their properties. Distinguish between a line, ray and line segment. Classify angles by size and distinguish between perpendicular and parallel lines.

Extensions		
Less Complex ◀	◀ ◀ ◀ ▶ ▶ ▶	▶ **More Complex**
Sort figures according to their geometrical attribute(s). *(For example, number of sides, shape of sides, angles, etc.)*	Identify and/or create a figure based on geometric property(ies). *(For example, parallel or perpendicular lines.)*	Identify and/or create matching parts of symmetrical figures.

Assessment Tasks		
• The student will sort figures according to their geometrical attribute(s). • The student will sort figures by their number of sides (e.g., squares and triangles). • The student will sort figures according to straight or curved only sides. • The student will sort figures according to their angle(s).	• The student will identify and/or create a figure, based on geometric property(ies). • The student will identify the specified figure, based on geometric property(ies). • The student will create a shape that is based on given geometric property(ies).	• The student will complete the other half given half of a geometric shape (e.g., use of a dashed line, folded page, or mirror). • The student will identify the other half of an already identified shape.

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Career Development and Occupational Studies (CDOS) skills crosswalk to the New York State Alternate Assessment (NYSAA) Essence statements and Extensions

Career Development: Knowledge about the world of work, career options, personal skills, and abilities relating to future career decisions. For example,

- Understand the connection of task completion to the attainment of a goal.
- Match preferences with possible career choices.

Integrated Learning: Application of academic knowledge and skills to school, community and home settings. For example:

- Recognize signs based on geometric shapes.
- Know the size and shape of a container to be used when storing or shipping items.
- Identify shapes in the environment.

Universal Foundation Skills: Foundation skills and competencies necessary for success in the workplace. For example:

- Construct structures based on specifications (building a shed).
- Place furniture in a room to best accommodate flow and purpose.
- Work cooperatively with others to create models based on specific criteria.
- Work within the confines of a system to solve a problem (selecting the appropriate format for a presentation based on space and audience).

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CCSS Domain: Measurement and Data		**Page(s):** 28
CCSS Code	**Cluster (including Standard(s) within the Cluster)**	**Essence of Cluster**
4.MD	**Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.** 1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...* 2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. 3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	Solve problems involving measurement and conversions of larger units to smaller units.

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Extensions		
Less Complex ◀ ···· ··◀·· ····◀··· ···▶·· ····▶· ·····▶		**More Complex**
Identify tool(s) appropriate for measurement. *(For example, rulers, clocks, scales, etc.)*	Identify the appropriate unit of measurement for a set of measured objects.	Compare objects with different units of measurement according to the attributes of mass, time, and/or length.
Assessment Tasks		
• The student will identify appropriate tools to measure various objects (e.g., rulers, clocks, scales.) • The student will identify tool(s) for measuring for given situation(s) (e.g., baking a cake would require a measuring cup, measuring spoons, etc.)	• The student will select an appropriate unit of measurement based on a given object (e.g., measure liquid = ounces; measure flour = tablespoon). • The student will identify the appropriate unit of measurement based on the size of an object (e.g., present the student with a paper clip and ask if it is more appropriate to measure the length of the paperclip in feet or inches.	• The student will compare objects with different units of measurement according to the attributes of mass, time and/or length. • The student will compare objects with different units of measurement according to the attributes of mass. • The student will compare objects with different units of measurement according to the attributes of time (e.g., *John finished his homework in 2 hours. Kelly finished her homework in 45 minutes. Who finished their homework the fastest?)*. • The student will compare objects with different units of measurement according to the attributes of length (e.g., *one stick is 5 feet long and another stick is 45 inches long. Which stick is longer?)*.

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Career Development and Occupational Studies (CDOS) skills crosswalk to the New York State Alternate Assessment (NYSAA) Essence statements and Extensions

Career Development: Knowledge about the world of work, career options, personal skills, and abilities relating to future career decisions. For example,

- Understand the differences between full-time/ part-time work and the relationship to wages earned.
- Manage time in relation to personal and professional obligations.
- Identify types of measurement used in career opportunities.

Integrated Learning: Application of academic knowledge and skills to school, community and home settings. For example:

- Use skills learned across a variety of settings (cooking, purchasing, schedules, or construction).
- Determine an appropriate measurement tool for a specific task and demonstrate its use.
- Determine how measurement is used in various occupations.

Universal Foundation Skills: Foundation skills and competencies necessary for success in the workplace. For example:

- Use measurement to solve problems related to cooking, construction, personal safety, etc.
- Use measurement to manage health and wellbeing (weight management, medication schedules).
- Identify measurement systems used throughout the world.

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CCSS Domain: Number and Operations in Base Ten		**Page(s):** 27
CCSS Code	**Cluster (including Standard(s) within the Cluster)**	**Essence of Cluster**
4.NBT	**Generalize place value understanding for multi-digit whole numbers.** 1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.* 2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. 3. Use place value understanding to round multi-digit whole numbers to any place.	Understand place value of any digit in a multi-digit base-ten number. Be able to compare two multi-digit numbers.

Extensions		
Less Complex ◀ ◀ ▶ ▶ **More Complex**		
Identify place-value of digit(s) in a number containing 3 or more digits. *(For example, present the student with the number 123. Ask the student to identify the number in the tens place. Correct work example would be that the student identifies "2" as being in the tens place.)*	Round multi-digit whole numbers to any place. *(For example, 123 rounded to the tens or hundreds.)*	Compare two or more multi digit whole numbers to identify greater than (>), less than (<), or equal to (=).

Assessment Tasks		
• The student will identify the place value of the digit(s), given number(s) containing 3 or more digits (e.g., What is the value of 5 in 154). • The student will break a number into its expanded form (e.g., 76 = 7 tens and 6 ones, or 76 = 70 ones and 6 ones). • The student will indicate the requested digit for a given number (e.g., In the number 154, what digit is in the tens place?).	• The student will round multi-digit whole numbers to any place. • The student will round a given multi-digit number to the nearest 10's place. • The student will round a given multi-digit number to the nearest 100's place.	• The student will compare two or more multi-digit whole numbers to identify greater than (>), less than (<), or equal to (=). • The student will compare two multi-digit whole numbers to identify greater than (>), less than (<), or equal to (=). • The student will compare at least three multi-digit numbers to identify greater than (>), less than (<), or equal to (=).

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Career Development and Occupational Studies (CDOS) skills crosswalk to the New York State Alternate Assessment (NYSAA) Essence statements and Extensions

Career Development: Knowledge about the world of work, career options, personal skills, and abilities relating to future career decisions. For example,

- Compare employment preferences to the availability of careers in the community.
- Compare possible earnings to the cost of a life style.

Integrated Learning: Application of academic knowledge and skills to school, community and home settings. For example:

- Use skills learned across a variety of settings (purchasing additional items at a grocery store will increase the cost of the bill).
- Read price and dollar values across settings.
- Use skills learned to perform comparison shopping.
- Perform simple budgeting.

Universal Foundation Skills: Foundation skills and competencies necessary for success in the workplace. For example:

- Understand concepts of quantity (more/less when measuring quantities; doubling a recipe).
- Managing Information: use information from a graph to make decisions (compare the price of similar items; use a bus schedule-select the proper bus to take to get to work on time).

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CCSS Domain: Number and Operations - Fractions		**Page(s):** 27
CCSS Code	**Cluster (including Standard(s) within the Cluster)**	**Essence of Cluster**
4.NF	**Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.** 3. Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions; e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. Add and subtract mixed numbers with like denominators; e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators; e.g., by using visual fraction models and equations to represent the problem. 4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* c. Solve word problems involving multiplication of a fraction by a whole number; e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*	Apply knowledge of operating with whole numbers to operating with fractions and mixed numbers (with like denominators).

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Extensions		
Less Complex ◀ ···· ··◀·· ····◀··· ···▶·· ····▶· ····· ▶		**More Complex**
Recognize and/or model unit fractions from a whole.	Add and/or subtract unit fractions.	Multiply unit fractions (e.g., 1/2, 1/5, etc.) and/or mixed numbers (e.g., 1 1/2, 2 4/5).
Assessment Tasks		
• The student will recognize fractional parts of a given whole. • The student will model unit fractions, using concrete materials (e.g., fraction blocks, puzzles).	• The student will add and/or subtract fractions, using manipulatives and/or models (e.g., 1/8 + 1/8 using fraction bar). • The student will add and/or subtract unit fractions to create a whole (e.g., 1/2 + 1/2 = 1).	• The student will multiply unit fractions and/or mixed numbers with like denominators. • The student will multiply fractions. • The student will multiply mixed numbers with like denominators.

Career Development and Occupational Studies (CDOS) skills crosswalk to the New York State Alternate Assessment (NYSAA) Essence statements and Extensions

Career Development: Knowledge about the world of work, career options, personal skills, and abilities relating to future career decisions. For example,

- Understand the differences between full-time/ part-time work.
- Use skills to calculate hours worked.

Integrated Learning: Application of academic knowledge and skills to school, community and home settings. For example:

- Use fractions to solve real-life problems (managing money, cooking).
- Use skills to manage physical space (create a floor plan, garden).

Universal Foundation Skills: Foundation skills and competencies necessary for success in the workplace. For example:

- Understand concepts of quantity (whole and parts).
- Use knowledge of fractions to manage personal activities/daily living skills.

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CCSS Domain: Operations and Algebraic Thinking		**Page(s):** 26
CCSS Code	**Cluster (including Standard(s) within the Cluster)**	**Essence of Cluster**
4.OA	**Generate and analyze patterns.** 5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	Recognize a pattern given a sequence of shapes or numbers. Determine (figure out) the next item (shape or number) in a sequence (pattern)

Extensions		
Less Complex ◀ ···· ··◀·· ····◀··· ···▶·· ····▶· ····· ▶ **More Complex**		
Determine the next number or shape in a pattern.	Generate a pattern from a given rule. *(For example, count by odd and/or even numbers.)*	Determine the rule for a given pattern.
Assessment Tasks		
• The student will determine the next number or shape in a pattern. • The student will determine the next number in a pattern (e.g., 1, 2,1, 2, ___). • The student will determine the next shape in a pattern (e.g., triangle, triangle, circle, triangle, triangle, ___).	• The student will generate a pattern from a given rule. • The student will generate a pattern from a given rule by adding and/or subtracting (e.g., count by odd or even). • The student will generate a pattern from a given rule by multiplying and/or dividing (e.g., using skip counting to create a pattern + 3 -> 3, 6, 9, 12).	• The student will determine the rule for a given pattern (e.g., given the pattern: 2, 4, 6, 8; the rule is +2.).

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Career Development and Occupational Studies (CDOS) skills crosswalk to the New York State Alternate Assessment (NYSAA) Essence statements and Extensions

Career Development: Knowledge about the world of work, career options, personal skills, and abilities relating to future career decisions. For example,

- Use skills to travel independently.
- Use skills to follow daily/weekly and monthly schedules.

Integrated Learning: Application of academic knowledge and skills to school, community and home settings. For example:

- Use skills to complete repetitive tasks (recycling, going through the lunch line).
- Use knowledge of repeating patterns to solve real life issues.

Universal Foundation Skills: Foundation skills and competencies necessary for success in the workplace. For example:

- Complete a task using knowledge of repetitive patterns including actions (brushing teeth, getting dressed, meal planning).
- Investigate weather patterns in different regions.
- Use knowledge of patterns to identify resources consistently needed to complete a task.

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