Broken Into More Specific

M06.A-N.1.1.1: Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. Example 1: Given a story context for (2/3) ÷ (3/4), explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = (a/b) × (d/c) = ad/bc.) Example 2: How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Example 3: How many 2 1/4-foot pieces can be cut from a 15 1/2-foot board?

No more than one division required per word problem. (The Eligible content is, in part, to divide mixed number by mixed number. The example given adds another variable of two ribbons of differing lengths to be cut. This is an extra level of difficulty that I believe will cause most students to struggle.)

Did the children learn to add, subtract, and divide fractions? I think this is what the 6th graders are doing. OVER-COMPLICATED (Perhaps use whole numbers that divide easily.)

M06.A-N.2.2.1: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

Find the greatest common factor of () and () What is the least common multiple of () and () (There is too much information, which is confusing.)

Find the greatest common factor of two whole numbers less than or equal to 100. Find the least common multiple of two whole numbers less than or equal to 12.

M06.A-N.3.1.2: Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g., –(–3) = 3; 0 is its own opposite).

*

M06.A-N.3.1.3: Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.

Locate and plot integers and other rational numbers (provide specific examples of grade-

appropriate rational numbers) on a horizontal or vertical number line. Locate and plot pairs of integers and other rational numbers on a coordinate plane (specify quadrants).

M06.B-E.1.1.3: Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). Example: Describe the expression 2(8 + 7) as a product of two factors.

"term" should be eliminated and added to a higher grade level.

Lose coefficient and quantity. I don't think they are ready to identify those parts an expression at this age (Until the students spend more time in earlier grades using the correct vocab, this will be beyond most students)

M06.B-E.1.1.4: Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. Example: Evaluate the expression b^2 – 5 when b = 4.

Solve for one part of the problem. Then solve for the second part (Why are you trying to confuse an 11-12 year old. The word problems need to be made easier to read)

M06.D-S.1.1.1: Display numerical data in plots on a number line, including line plots, histograms, and box-andwhisker plots.

Display numerical data in plots including and limited to number lines, bar graphs, scatter plots and line plots. (The amount of material grade 6 students must comprehend can be overwhelming. If we are truly attempting to build strong mathematical foundations, let's provide these students time to make the necessary connections with the basics; ratios, proportional thinking and percents and fractions. Many students in the Commonwealth are entering a middle school setting for the first time. Social challenges as well as challenges of space (lockers) and demands (several teachers and no recess) put an exceptional amount of burden on these students. Lay a strong foundation and the understanding of box-and-whisker plots as well as absolute deviation of the mean as well as other less concrete topics will be more easily accomplished at a later year.)

Display numerical data in plots on a number line, including line plots and histograms.

M06.D-S.1.1.2: Determine quantitative measures of center (e.g., median, mean, mode) and variability (e.g., range, interquartile range, mean absolute deviation).

Interquartile range and mean absolute deviationshould not be an expectation for grade 6 students.

Different Grade

M06.A-N.1.1.1: Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. Example 1: Given a story context for (2/3) ÷ (3/4), explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = (a/b) × (d/c) = ad/bc.) Example 2: How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Example 3: How many 2 1/4-foot pieces can be cut from a 15 1/2-foot board?

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M06.A-N.2.1.1: Solve problems involving operations (+, –, ×, and ÷) with whole numbers, decimals (through thousandths), straight computation, or word problems.

4

M06.A-N.2.2.1: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

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M06.A-N.2.2.2: Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. Example: Express 36 + 8 as 4(9 + 2).

4

7

M06.A-N.3.1.1: Represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge).

4

M06.A-N.3.1.3: Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.

4

M06.A-N.3.2.1: Write, interpret, and explain statements of order for rational numbers in real-world contexts. Example: Write –3°C > –7°C to express the fact that –3°C is warmer than –7°C.

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M06.A-N.3.2.2: Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real-world situation. Example: For an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars, and recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.

7

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M06.A-N.3.2.3: Solve real-world and mathematical problems by plotting points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

7

M06.A-R.1.1.1: Use ratio language and notation (such as 3 to 4, 3:4, 3/4) to

describe a ratio relationship between two quantities. Example 1: “The ratio of girls to boys in a math class is 2:3 because for every 2 girls there are 3 boys.” Example 2: “For every five votes candidate A received, candidate B received four votes.”

7

M06.A-R.1.1.2: Find the unit rate a/b associated with a ratio a:b (with b ≠ 0) and use rate language in the context of a ratio relationship. Example 1: “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.” Example 2: “We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.”

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M06.A-R.1.1.3: Construct tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios.

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M06.A-R.1.1.4: Solve unit rate problems including those involving unit pricing and constant speed. Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?

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M06.A-R.1.1.5: Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percentage.

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M06.B-E.1.1.2: Write algebraic expressions from verbal descriptions. Example: Express the description “five less than twice a number” as 2y – 5.

7

M06.B-E.1.1.3: Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). Example: Describe the expression 2(8 + 7) as a product of two factors.

8

99

M06.B-E.1.1.4: Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. Example: Evaluate the expression b^2 – 5 when b = 4.

7

M06.B-E.1.1.5: Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x. Example 2: Apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y). Example 3: Apply properties of operations to y + y + y to produce the equivalent expression 3y.

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M06.B-E.2.1.1: Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

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M06.B-E.2.1.2: Write algebraic expressions to represent real-world or mathematical problems.

7

M06.B-E.2.1.3: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all non-negative rational numbers.

7

M06.B-E.2.1.4: Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem and/or represent solutions of such inequalities on number lines.

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M06.B-E.3.1.1: Write an equation to express the relationship between the dependent and independent variables. Example: In a problem involving motion at a constant speed of 65 units, write the equation d = 65t to represent the relationship between distance and time.

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M06.B-E.3.1.2: Analyze the relationship between the dependent and independent variables using graphs and tables and/or relate these to an equation.

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M06.C-G.1.1.1: Determine the area of triangles and special quadrilaterals (i.e., square, rectangle, parallelogram, rhombus, and trapezoid). Formulas will be provided.

7

M06.C-G.1.1.2: Determine the area of irregular or compound polygons. Example: Find the area of a room in the shape of an irregular polygon by composing and/or decomposing.

7

8

M06.C-G.1.1.3: Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided.

7

8

M06.C-G.1.1.4: Given coordinates for the vertices of a polygon in the plane, use the coordinates to find side lengths and area of the polygon (limited to triangles and special quadrilaterals). Formulas will be provided.

7

8

M06.C-G.1.1.5: Represent three-dimensional figures using nets made of rectangles and triangles.

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8

M06.C-G.1.1.6: Determine the surface area of triangular and rectangular prisms (including cubes). Formulas will be provided.

7

8

M06.D-S.1.1.1: Display numerical data in plots on a number line, including line plots, histograms, and box-andwhisker plots.

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M06.D-S.1.1.2: Determine quantitative measures of center (e.g., median, mean, mode) and variability (e.g., range, interquartile range, mean absolute deviation).

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M06.D-S.1.1.3: Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.

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M06.D-S.1.1.4: Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

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Rewritten

M06.A-N.1.1.1: Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. Example 1: Given a story context for (2/3) ÷ (3/4), explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) =

(a/b) × (d/c) = ad/bc.) Example 2: How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Example 3: How many 2 1/4-foot pieces can be cut from a 15 1/2-foot board?

How many bows can be made from 23 yards of ribbon that are 1 5/6 yards in length (Way to hard for 6th graders. one step is enough. Do you want them to miss it.)

M06.A-N.2.1.1: Solve problems involving operations (+, –, ×, and ÷) with whole numbers, decimals (through thousandths), straight computation, or word problems.

Solve straight computation or word problems involving operations (+, -, x, and /) with whole numbers and decimals (through thousandths). (Whole numbers and decimals are a different category (type of number) while straight computation and word problems are another (type of problem). It doesn't make sense to list them together.)

M06.A-N.2.2.1: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

name all the factors of 24 and 40 (The problem is too wordy. Is the goal to confuse the kids or name the factors)

The standard itself is fine. The question provided for eligible content is confusing.

The statement is written well. The released item (Gracie is rewriting the expression...) is much too difficult for the released statement. There is too much for the students to be able to process just by reading the problem and it is taking the focus away from the concept. (The released item needs to be watered down...it is much too difficult and wordy for the students to show that they know the concept.)

What are the common factors of 24 and 40? (I had to read this question a few times and I still wasn't even sure what it was asking until I saw the answer. If this was test question when I was 10 or 11, I would panic.)

M06.A-N.3.1.2: Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g., –(–3) = 3; 0 is its own opposite).

Determine the opposite of a number and recognize that the opposite of a negative number is the absolute value of that number (or positive) (The opposite of an opposite is poorly worded and lacks mathematical terms.)

Determine the opposite of the number () (The information is too wordy, which would result in confusion.)

The opposite of an opposite as itself is not required.

M06.A-N.3.2.1: Write, interpret, and explain statements of order for rational numbers in real-world contexts. Example: Write –3°C > –7°C to express the fact that –3°C is warmer than –7°C.

Order the rational numbers from least to greatest: -2, 2, 3, -2 (why do you want to confuse the students with absolute values and quantities. The way the absolute values and quantities will confuse the students.)

M06.A-N.3.2.2: Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real-world situation. Example: For an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars, and recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.

Add a >, <, = sign to the following: List numbers with fill in the blanks. (Why are there so many words for math? Plus, many of these children have not played games where scores can be negative, so on a test, they may get confused.)

M06.A-R.1.1.3: Construct tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Plotting on the coordinate plane should not be included.

M06.A-R.1.1.5: Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percentage.

It would be helpful to have answers in round numbers if there are multiple choice answers to reduce self doubt.

The standard itself is fine. The eligible content given should use a quantity as a rate per 100.

M06.B-E.1.1.1: Write and evaluate numerical expressions involving whole-number exponents.

numbers only. The cube example during a test is extra words that are confusing.

M06.B-E.1.1.2: Write algebraic expressions from verbal descriptions. Example: Express the description “five less than twice a number” as 2y – 5.

Dont know how to reword the question. Too confusing (The way the question is written confuses me and I have a masters degress. Why do that to an 11-12 year old.)

Either give the final answer, or delete the problem. (Children are taught to use different strategies when doing pre-algebra. This assumes too much and may require some back-calculation during a test. A child may get this wrong even if he/she knows the answer.)

The statement is fine, the released item (This soccer season…) has too many steps for the students to be able to demonstrate their knowledge of the statement. (This statement is asking too many steps from the students to demonstrate their knowledge of the concept. It would be enough to provide 4 multiple choice expressions and have them pick which expression matches the description.)

the statement is not clear on what it is asking

M06.B-E.1.1.4: Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. Example: Evaluate the expression b^2 – 5 when b = 4.

The statement is fine, the released item (Jenae goes to the store) is entirely too wordy for the students to process. (Instead of providing the rationale for the equation (if you are just going to give them the equation anyway), just provide the equation and ask them to solve.)

M06.B-E.2.1.2: Write algebraic expressions to represent real-world or mathematical problems.

The statement is fine, the released item is too in depth for the topic. (It would almost be easier to have the student solve the problem than try to create an algebraic expression for it.)

M06.B-E.2.1.3: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all non-negative rational numbers.

Dont know how to rewrite it. (Way too hard for sixth grade.)

M06.B-E.2.1.4: Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem and/or

represent solutions of such inequalities on number lines.

How is an 11-12 year old supposed to comprehend a constraint or condition? Ask adults in your office if THEY understand what this means!

Sont know how (Once again trying to fool students with reading than by doing the math does not make sense)

M06.C-G.1.1.1: Determine the area of triangles and special quadrilaterals (i.e., square, rectangle, parallelogram, rhombus, and trapezoid). Formulas will be provided.

Remove rhombus, trapezoid

M06.C-G.1.1.3: Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided.

Whole number only

M06.D-S.1.1.1: Display numerical data in plots on a number line, including line plots, histograms, and box-andwhisker plots.

box and whisker plots are used where in our society? Why should a 6th grader waste their time making these.

M06.D-S.1.1.2: Determine quantitative measures of center (e.g., median, mean, mode) and variability (e.g., range, interquartile range, mean absolute deviation).

Exclude interquartile range and absolute deviation. Move that to 7th grade. (Allow students to master mean, median, mode and range and allow them to apply it to real life situations.)

Mean Absolute Deviation is taught in high school statistics classes and not grade appropriate for 6th grade students. Box-and-Whisker related statistics are antiquated. (See above.)

Should Be Deleted

M06.A-N.1.1.1: Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. Example 1: Given a story context for (2/3) ÷ (3/4), explain that

(2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = (a/b) × (d/c) = ad/bc.) Example 2: How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Example 3: How many 2 1/4-foot pieces can be cut from a 15 1/2-foot board?

Examples 2 and 3 are reasonable and understandable for a sixth grader. Example 1 as written is unfamiliar to a sixth grader and does not test their knowledge of using fractions in a real life situation.

The example given does not match the statement. In the sample you not only have to divide but add. The given statement only talks about division.

M06.A-N.2.2.1: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

I don't understand the relevance. I don't know how to relate it to anything practical in my life.

M06.A-N.2.2.2: Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. Example: Express 36 + 8 as 4(9 + 2).

My daughter came home with this as homework and I couldn't even help her. My mother is very smart at Algebra and she couldn't help her with alot of her homework this year. It is setting these kids up to fail, I include all of this new math that has changed. My daughter is very smart and has been on the honor roll for years now this year I don't know if she will make it because of this math that she can't understand . Also they only go over it in a day and expect these kids to understand it. Thats wrong! How do you expect these kids to pass? How do you expect these kids no to feel stupid when its not them its this new policy. It's a shame!

M06.A-N.3.1.1: Represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge).

Unless children are told that "below sea level" should be expressed as a negative number (which are not even introduced to 6th-graders, I believe) and the 0 point would be sea level, this question should not be asked. I am sure it will cause a lot of questions, confusion and frustration. Adults looking for real-world problems should consider all potential questions and

frustrations. Math should be math -- concrete and simple.

M06.A-N.3.1.2: Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g., –(–3) = 3; 0 is its own opposite).

These words are, once again, confusing. If the children are taught what a valley that is underwater is and that the elevation of the valley floor is the depth below the water surface, which is 0, AND they know what a negative number is, then they should get this correct. Otherwise, save it for Science class. If this is really to test the meaning of the "opposite" of a number as defined by Opposite of a # = -#, then numbers should be given, and the children should be asked what the opposite is if there needs to be a visual, use a number line and teach what a negative number is.

M06.A-N.3.2.1: Write, interpret, and explain statements of order for rational numbers in real-world contexts. Example: Write –3°C > –7°C to express the fact that –3°C is warmer than –7°C.

This way over-complicates a VERY simple concept. Something like this will confuse someone that is learning about negative numbers for the 1st time.

M06.B-E.1.1.2: Write algebraic expressions from verbal descriptions. Example: Express the description “five less than twice a number” as 2y – 5.

In sixth grade, students are only introduced to the concept of writing numerical expressions. To also expect them to simultaneously integrate the use of the distributive property is trying to extend their thinking beyond their capabilities.

Students in sixth grade are only introduced to this skill. To expect them to integrate the use of the distributive property is too much.

M06.B-E.1.1.3: Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). Example: Describe the expression 2(8 + 7) as a product of two factors.

It is good for students to be able to identify and be able to use terms.

M06.B-E.1.1.5: Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x. Example 2: Apply the distributive property to the expression 24x + 18y to produce the

equivalent expression 6(4x + 3y). Example 3: Apply properties of operations to y + y + y to produce the equivalent expression 3y.

Dumbest question out of all the sample questions. What are you trying to accomplish.

M06.B-E.2.1.1: Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

As it is, inequalities have been bumped down from 8th grade to 7th grade (which is challenging)...It is unreasonable to expect a 6th grade student to utilize inequalities to solve in problems.

M06.C-G.1.1.4: Given coordinates for the vertices of a polygon in the plane, use the coordinates to find side lengths and area of the polygon (limited to triangles and special quadrilaterals). Formulas will be provided.

It is too wordy. If you give a diagram or even a coordinate grid the students may be able to visualize what is being asked of them better.

M06.D-S.1.1.1: Display numerical data in plots on a number line, including line plots, histograms, and box-andwhisker plots.

Box and whisker plots are not used in any other real world context.

No one uses box-and-whisker plots in any statistical application. It's actually laughable to see if you are in a profession statistical field and beyond antiquated.

M06.D-S.1.1.2: Determine quantitative measures of center (e.g., median, mean, mode) and variability (e.g., range, interquartile range, mean absolute deviation).

Are you kidding me????? mean absolute deviation in elementary school????? again, ask any adult in your office to compute mean absolute deviation and let me know how it goes. This one is completely unreasonable in elementary school.

M06.D-S.1.1.4: Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

I took several higher math courses (4 calculus courses) and have never heard the expression "measure of center". If you want them to determine the median and average, just ask them to do that. As they go on in math, they will be asked to determine these mathematical problems using numbers.

mean absolute deviation is a new term and has never been taught in the Everyday Mathematics curriculum. The students will be confused by this term having never seen or heard of it before.

This used to be a seventh grade topic. Given the items in the 7th grade curriculum (including the difficulty of the released items and their wording), we are no longer able to focus on this concept in 7th grade. I feel that it would be better in 7th grade, however there is no longer room in that curriculum.

Suggested Eligible Content

I believe that M06.D-S1.1.1 should not include box and whisker plots. This type of graph is infrequently used in advanced statistics. This content appears in math assessments beginning in grade 6 and is not needed for advanced math study.

I belive 6th graders can be taught how to find the Mean Standard Deviation, but I don't think they are developmentally ready to explain how it is related to real life mathmatics. As a teacher, I struggle to explain it to them in a way they can absorb.

6th graders should learn monomials (not extra classes like advance math and enrichment)

Please incorporate more specific examples for each type. Some are provided.