|  | <u>MATHEMATICS</u>                      |   |                     |  |   |  |  |  |  |
|--|---|---|---------------------|--|---|--|--|--|--|
| Yellow = Current Standard; Green = Proposed Standard; Blue = New Proposed Standard |   |   |                     |  |   |  |  |  |  |
| Standard Number  | Input From /<br>Change<br>Justification | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language  | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |  |  |  |  |
| MACC.K.CC.1.3  | Parent                                  | Easy  |                     |  |   |  |  |  |  |
| MACC.K.CC.1.3  | Teacher                                 | Read and Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 or word (with 0 representing a count of no objects).                                     |                     |  |   |  |  |  |  |
| MACC.K.CC.1.3  | Teacher                                 | Should state that students should know and write numbers and words 0-20.  |                     |  |   |  |  |  |  |
| MACC.K.CC.1.3  | Parent                                  | We could probably increase this standard even higher for our students.  |                     |  |   |  |  |  |  |
| Current Standard<br>MACC.K.CC.1.3  |   | Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).  |                     |  |   |  |  |  |  |
| Proposed Standard<br>MACC.K.CC.1.3   |   | Read and write numerals from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).  | x                   |  | х   |  |  |  |  |
| MACC.K.OA.1.2  | Other                                   | Too early. Have any of the people who wrote this non-sense ever sat<br>through a developmental psychology course? Young people are not<br>capable of high levels of abstract reasoning. |                     |  |   |  |  |  |  |
| Current Standard<br>MACC.K.OA.1.2  |   | Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.  |                     |  |   |  |  |  |  |

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|---|--|---|---------------------|--|---|
| Proposed Standard<br>MACC.K.OA.1.2        | It is not expected<br>for students to be<br>able to read<br>independently. | Solve addition and subtraction word problems <sup>1</sup> , and add and subtract within 10, e.g., by using objects or drawings to represent the problem ( <sup>1</sup> Students are not required to independently read the word problems.)  | Х                   | х  |   |
| New Proposed<br>Standard<br>MACC.K.OA.1.6 |  | Use addition and subtraction within 10 to solve word problems<br>involving both addends unknown, e.g., by using objects, drawings,<br>and equations with symbols for the unknown numbers to represent<br>the problem. (Students are not required to independently read the<br>word problems.)   | Х                   | Х  |   |
| MACC.1.MD.1.2                             | Parent   | Pre K!  |                     |  |   |
| New Proposed<br>Standard<br>MACC.K.MD.1.a | Delete<br>MACC.1.MD.1.2<br>from 1st Grade<br>Move to<br>Kindergarten       | Express the length of an object as a whole number of length units, by<br>laying multiple copies of a shorter object (the length unit) end to<br>end; understand that the length measurement of an object is the<br>number of same-size length units that span it with no gaps or<br>overlaps. <i>Limit to contexts where the object being measured is</i><br><i>spanned by a whole number of length units with no gaps or overlaps.</i> | Х                   |  | Х   |
| MACC.1.NBT.2.2                            | Parent   | I oppose this standard because: Substandard (b) should be extended to 99 rather than 19 to support the next (1.NBT.2.3) standard.   |                     |  |   |
| MACC.1.NBT.2.2                            | Parent   | Our kids should know this before they get in Pre K!   |                     |  |   |
| MACC.1.NBT.2.2                            | Parent   | Substandard (b) should be extended to 99 rather than 19 to support the next (1.NBT.2.3) standard.   |                     |  |   |

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|-------------------------------------|---|---|---------------------|--|---|
| MACC.1.NBT.2.2                      | Parent                                  | Substandard (b) should be extended to 99 rather than 19 to support the next (1.NBT.2.3) standard.   |                     |  |   |
| Current Standard<br>MACC.1.NBT.2.2  |   | Understand that the two digits of a two-digit number represent<br>amounts of tens and ones. Understand the following as special cases:<br>a. 10 can be thought of as a bundle of ten ones — called a "ten."<br>b. The numbers from 11 to 19 are composed of a ten and one, two,<br>three, four, five, six, seven, eight, or nine ones.<br>c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two,<br>three, four, five, six, seven, eight, or nine tens (and 0 ones).  |                     |  |   |
| Proposed Standard<br>MACC.1.NBT.2.2 | beyond 19 in                            | Understand that the two digits of a two-digit number represent<br>amounts of tens and ones. a. 10 can be thought of as a bundle of ten<br>ones — called a "ten."<br>b. The numbers from 11 to 19 are composed of a ten and one, two,<br>three, four, five, six, seven, eight, or nine ones.<br>c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two,<br>three, four, five, six, seven, eight, or nine tens (and 0 ones).<br>d. Decompose two-digit numbers in multiple ways (e.g., 64 can be<br>decomposed into 6 tens and 4 ones or into 5 tens and 14 ones). | Х                   |  | Х   |
| MACC.1.0A.1.1                       | Teacher                                 | Reading word problems in 1st grade??  |                     |  |   |

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| Current Standard<br>MACC.1.OA.1.1         |  | Use addition and subtraction within 20 to solve word problems<br>involving situations of adding to, taking from, putting together,<br>taking apart, and comparing, with unknowns in all positions, e.g., by<br>using objects, drawings, and equations with a symbol for the<br>unknown number to represent the problem.  |                     |  |   |
| Proposed Standard<br>MACC.1.OA.1.1        | It is not expected   | Use addition and subtraction within 20 to solve word problems <sup>1</sup><br>involving situations of adding to, taking from, putting together,<br>taking apart, and comparing, with unknowns in all positions, e.g., by<br>using objects, drawings, and equations with a symbol for the<br>unknown number to represent the problem ( <sup>1</sup> Students are not<br>required to independently read the word problems.)  | х                   | Х  |   |
| New Proposed<br>Standard<br>MACC.1.MD.1.3 | concerns of parents<br>and teachers that<br>the second grade<br>measurement<br>standards are too<br>advanced | Understand how to use a ruler to measure length to the<br>nearest inch.<br>a. Recognize that the ruler is a tool that can be used to<br>measure the attribute of length.<br>b. Understand the importance of the zero point and end point<br>and that the length measure is the span between two points.<br>c. Recognize that the units marked on a ruler have equal length<br>intervals and fit together with no gaps or overlaps. These equal<br>interval distances can be counted to determine the overall<br>length of an object. | X                   |  | Х   |

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|---|--|---|---------------------|--|---|
| New Proposed<br>Standard<br>MACC.1.MD.4.1 | parent and teacher<br>requests for earlier<br>instruction of<br>money concepts | <ul> <li>Identify and combine values of money in cents up to one dollar working with a single unit of currency<sup>1</sup>.</li> <li>A. Identify the value of coins (pennies, nickels, dimes, quarters).</li> <li>B. Compute the value of combinations of coins (pennies and/or dimes).</li> <li>C. Relate the value of pennies, dimes, and quarters to the dollar (e.g., There are 100 pennies <i>or</i> ten dimes <i>or</i> four quarters in one dollar.) <sup>1</sup> Students are not expected to understand the decimal notation for combinations of dollars and cents.</li> </ul> | Х                   |  | Х   |
| MACC.2.MD.1.1                             | Parent   | I oppose this standard because: Missing "to the nearest inch/centimeter" at the end of the standard.  |                     |  |   |
| MACC.2.MD.1.1                             | Parent   | Missing "to the nearest inch/centimeter" at the end of the standard.  |                     |  |   |
| Current Standard<br>MACC.2.MD.1.1         |  | Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.   |                     |  |   |
| Proposed Standard<br>MACC.2.MD.1.1        | Clarification  | Measure the length of an object to the nearest inch, foot,<br>centimeter, or meter by selecting and using appropriate tools such as<br>rulers, yardsticks, meter sticks, and measuring tapes.   | х                   | Х  |   |
| Current Standard<br>MACC.2.MD.1.2         |  | Measure the length of an object twice, using length units of different<br>lengths for the two measurements; describe how the two<br>measurements relate to the size of the unit chosen.   |                     |  |   |

| Standard Number                                     | Input From /<br>Change<br>Justification                     | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language  | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
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| Proposed Standard<br>MACC.2.MD.1.2                  | Clarification   | Describe the inverse relationship between the size of a unit and<br>number of units needed to measure a given object. <i>Example:</i><br><i>Suppose the perimeter of a room is lined with one-foot rulers. Now,</i><br><i>suppose we want to line it with yardsticks instead of rulers. Will we</i><br><i>need more or fewer yardsticks than rulers to do the job? Explain your</i><br><i>answer.</i> | Х                   |  | Х   |
| Current Standard                                    |   | Estimate lengths using units of inches, feet, centimeters, and meters.  |                     |  |   |
| MACC.2.MD.1.3<br>Proposed Standard<br>MACC.2.MD.1.3 | Yards are added to<br>make it consistent<br>with 2.MD.1.1   | Estimate lengths using units of inches, feet, yards, centimeters, and meters.   | Х                   |  | х   |
| MACC.2.MD.3.7                                       | Teacher   | A.M. and P.M. are difficult for them to understand.   |                     |  |   |
| MACC.2.MD.3.7                                       | Parent  | How can am or pm be determined form just an analog clock face?  |                     |  |   |
| Current Standard<br>MACC.2.MD.3.7                   |   | Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.   |                     |  |   |
| Proposed Standard<br>MACC.2.MD.3.7                  | Improves the focus<br>of the standard on<br>reading clocks. | Tell and write time from analog and digital clocks to the nearest five minutes.   | х                   |  | х   |
| Current Standard<br>MACC.2.MD.3.8                   |   | Solve word problems involving dollar bills, quarters, dimes, nickels,<br>and pennies, using \$ and ¢ symbols appropriately. Example: If you<br>have 2 dimes and 3 pennies, how many cents do you have?  |                     |  |   |

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|--|---|--|---------------------|--|---|
| Proposed Standard<br>MACC.2.MD.3.8         | Parent and teacher<br>requests for earlier<br>instruction of<br>money concepts.         | Solve one- and two-step word problems involving dollar bills (singles, fives, tens, twenties, and hundreds) or coins (quarters, dimes, nickels, and pennies) using \$ and ¢ symbols appropriately. Word problems may involve addition, subtraction, and equal groups situations. Example: The cash register shows that the total for your purchase is 59¢. You gave the cashier three quarters. How much change should you receive from the cashier?<br>A. Identify the value of coins and paper currency.<br>B. Compute the value of any combination of coins within one dollar.<br>C. Compute the value of any combinations of dollars (e.g., If you have three ten-dollar bills, one five-dollar bill, and two one-dollar bills, how much money do you have?).<br>D. Relate the value of pennies, nickels, dimes, and quarters to other coins and to the dollar (e.g., there are five nickels in one quarter, there are two nickels in one dime, there are two and a half dimes in one quarter, there are twenty nickels in one dollar).<br>( <sup>1</sup> See glossary Table 1 and Table 2.) | X                   |  | x   |
| New Proposed<br>Standard<br>MACC.2.OA.1.1a | This standard is<br>fundamental for<br>preparing children<br>for success in<br>Algebra. | Determine the unknown whole number in an equation<br>relating four or more whole numbers. For example,<br>determine the unknown number that makes the equation<br>true in the equations $37 + 10 + 10 = \_\_\_+18$ , $? - 6 = 13 - 4$ , $15 - 9 = 6 + \_$ .  | Х                   |  | Х   |

| Standard Number                    | Input From /<br>Change<br>Justification | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language  | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
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| Current Standard<br>MACC.3.MD.1.2  |   | Measure and estimate liquid volumes and masses of objects using<br>standard units of grams (g), kilograms (kg), and liters (l).Add,<br>subtract, multiply, or divide to solve one-step word problems<br>involving masses or volumes that are given in the same units, e.g., by<br>using drawings (such as a beaker with a measurement scale) to<br>represent the problem.   |                     |  |   |
| Proposed Standard<br>MACC.3.MD.1.2 |   | Measure and estimate liquid volumes and masses of objects using<br>standard units of grams (g), kilograms (kg), and liters (I). Add,<br>subtract, multiply, or divide to solve one-step word problems<br>involving masses or volumes that are given in the same units.  | х                   |  | Х   |
| Current Standard<br>MACC.4.MD.1.2  |   | Use the four operations to solve word problems involving distances,<br>intervals of time, liquid volumes, masses of objects, and money,<br>including problems involving simple fractions or decimals, and<br>problems that require expressing measurements given in a larger<br>unit in terms of a smaller unit. Represent measurement quantities<br>using diagrams such as number line diagrams that feature a<br>measurement scale.   |                     |  |   |
| Proposed Standard<br>MACC.4.MD.1.2 | the standard.                           | Use the four operations to solve word problems <sup>1</sup> involving distances,<br>intervals of time, and money, including problems involving simple<br>fractions or decimals. <sup>2</sup> Represent fractional quantities of distance<br>and intervals of time using linear models. ( <sup>1</sup> See Table 2 Common<br>Multiplication and Division Situations)( <sup>2</sup> Computational fluency with<br>fractions and decimals is not the goal for students at this grade level.) | X                   |  | Х   |

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| New Proposed<br>Standard<br>MACC.4.OA.1.a | This standard is<br>fundamental for<br>preparing children<br>for success in<br>Algebra. | Determine whether an equation is true or false by using<br>comparative relational thinking. For example, without<br>adding 60 and 24, determine whether the equation 60 + 24 =<br>57 + 27 is true or false.  | Х                   |  | Х   |
| New Proposed<br>Standard<br>MACC.4.OA.1.b | This standard is<br>fundamental for<br>preparing children<br>for success in<br>Algebra. | Determine the unknown whole number in an equation relating four whole numbers using comparative relational thinking. For example, solve $76 + 9 = n + 5$ for $n$ by arguing that nine is four more than five, so the unknown number must be four greater than 76.  | Х                   |  | Х   |
| MACC.4.OA.2.4                             | Parent  | Missing development of prime factorization, its uniqueness, and its uses. Consequently, Common Core never develops systematic understanding for finding common denominators or factorization.  |                     |  |   |
| Current Standard<br>MACC.4.OA.2.4         |   | Find all factor pairs for a whole number in the range 1–100.<br>Recognize that a whole number is a multiple of each of its factors.<br>Determine whether a given whole number in the range 1–100 is a<br>multiple of a given one-digit number. Determine whether a given<br>whole number in the range 1–100 is prime or composite. |                     |  |   |

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| Proposed Standard<br>MACC.4.OA.2.4 | This change clarifies                   | <ul> <li>Investigate factors and multiples.</li> <li>A. Find all factor pairs for a whole number in the range 1–100.</li> <li>B. Recognize that a whole number is a multiple of each of its factors.</li> <li>Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.</li> <li>C. Determine whether a given whole number in the range 1–100 is prime or composite.</li> </ul> | х                   |  | Х   |
| MACC.5.G.2.4                       | Parent                                  | Ill-defined standard that needs clarification as to what specific classes<br>of shapes it applies to. For example, what is the hierarchy of a mix of<br>regular and irregular polygons, or of a mix of convex and non-convex<br>polygons?  |                     |  |   |
| MACC.5.G.2.4                       | Other                                   | Not sure fifth graders can truly understand "hierarchy."   |                     |  |   |
| Current Standard<br>MACC.5.G.2.4   |   | Classify two-dimensional figures in a hierarchy based on properties.   |                     |  |   |
| Proposed Standard<br>MACC.5.G.2.4  | reflect the                             | Classify and organize two-dimensional figures into Venn diagrams<br>based on the attributes of the figures.  | Х                   |  | Х   |
| MACC.5.MD.1.1                      | Teacher                                 | What measures, be specific   |                     |  |   |

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| Current Standard<br>MACC.5.MD.1.1  |   | Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.   |                     |  |   |
| Proposed Standard<br>MACC.5.MD.1.1 | were specified in response public       | Convert among different-sized standard measurement units (i.e., km,<br>m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement<br>system (e.g., convert 5 cm to 0.05 m), and use these conversions in<br>solving multi-step, real world problems. | х                   | х  |   |
| MACC.5.MD.3.5                      | Teacher                                 | Volume should be represented at V=Bh where V=volume, B=area of<br>the base, and h=height so that it can be easily transferred to<br>cylinders, cones, and pyramids in middle school.   |                     |  |   |

| Standard Number                   | Input From /<br>Change<br>Justification | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language   | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
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| Current Standard<br>MACC.5.MD.3.5 |   | Relate volume to the operations of multiplication and addition and<br>solve real world and mathematical problems involving volume.<br>a. Find the volume of a right rectangular prism with whole-number<br>side lengths by packing it with unit cubes, and show that the volume<br>is the same as would be found by multiplying the edge lengths,<br>equivalently by multiplying the height by the area of the base.<br>Represent threefold whole-number products as volumes, e.g., to<br>represent the associative property of multiplication.<br>b. Apply the formulas V = I × w × h and V = b × h for rectangular<br>prisms to find volumes of right rectangular prisms with whole-<br>number edge lengths in the context of solving real world and<br>mathematical problems.<br>c. Recognize volume as additive. Find volumes of solid figures<br>composed of two non-overlapping right rectangular prisms by adding<br>the volumes of the non-overlapping parts, applying this technique to<br>solve real world problems. |                     |  |   |

| Standard Number                    | Input From /<br>Change<br>Justification  | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language   | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
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| Proposed Standard<br>MACC.5.MD.3.5 | The notation was<br>changed to make it<br>consistent with<br>conventional<br>notation. | Relate volume to the operations of multiplication and addition and<br>solve real world and mathematical problems involving volume.<br>A. Find the volume of a right rectangular prism with whole-number<br>side lengths by packing it with unit cubes, and show that the volume<br>is the same as would be found by multiplying the edge lengths,<br>equivalently by multiplying the height by the area of the base.<br>Represent threefold whole-number products as volumes, e.g., to<br>represent the associative property of multiplication.<br>B. Apply the formulas V = I × w × h and V = B × h for rectangular<br>prisms to find volumes of right rectangular prisms with whole-<br>number edge lengths in the context of solving real world and<br>mathematical problems.<br>C. Recognize volume as additive. Find volumes of solid figures<br>composed of two non-overlapping right rectangular prisms by adding<br>the volumes of the non-overlapping parts, applying this technique to<br>solve real world problems. | Х                   |  | Х   |

| Standard Number                   | Input From /<br>Change<br>Justification | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language  | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
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| Current Standard<br>MACC.6.RP.1.3 |   | Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.<br>a. Make tables of equivalent ratios relating quantities with whole-<br>number measurements, find missing values in the tables, and plot<br>the pairs of values on the coordinate plane. Use tables to compare<br>ratios.<br>b. Solve unit rate problems including those involving unit pricing and<br>constant speed. For example, if it took 7 hours to mow 4 lawns, then<br>at that rate, how many lawns could be mowed in 35 hours? At what<br>rate were lawns being mowed?<br>c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a<br>quantity means 30/100 times the quantity); solve problems involving<br>finding the whole, given a part and the percent.<br>d. Use ratio reasoning to convert measurement units; manipulate<br>and transform units appropriately when multiplying or dividing<br>quantities. |                     |  |   |

| Standard Number                    | Input From /<br>Change<br>Justification                           | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language   | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
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| Proposed Standard<br>MACC.6.RP.1.3 | Introduction of Pi as<br>a ratio prior to use<br>in calculations. | Use ratio and rate reasoning to solve real-world and mathematical problems <sup>1</sup> , e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.<br>a. Make tables of equivalent ratios relating quantities with whole-<br>number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.<br>b. Solve unit rate problems including those involving unit pricing and constant speed. For 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?<br>c. 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 percent.<br>d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.<br>e. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter. ( <sup>1</sup> See Table 2 Common Multiplication and Division Situations) | X                   |  | Х   |
| MACC.912.A-<br>CED.1.1             | Parent  | Inequalities with absolute values are missing.   |                     |  |   |

| Standard Number                               | Input From /<br>Change<br>Justification                                 | Public Review Comment /<br>Current Standard Language - Proposed Standard<br>Language   | Recommend<br>Change | Would Not<br>Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment | Would Result in<br>Change to<br>Instructional<br>Materials or<br>Assessment |
|---|---|--|---------------------|--|---|
| Current Standard<br>MACC.912.A-<br>CED.1.1    |   | Create equations and inequalities in one variable and use them to<br>solve problems. Include equations arising from linear and quadratic<br>functions, and simple rational and exponential functions.            |                     |  |   |
| Proposed Standard<br>MACC.912.A-<br>CED.1.1   | value functions per   | Create equations and inequalities in one variable and use them to<br>solve problems. Include equations arising from linear and quadratic<br>functions, and simple rational, absolute, and exponential functions. | Х                   |  | Х   |
| MACC.912.F-BF.2.5                             | Parent  | Common core DOESN'T explicitly expect students to prove<br>logarithmic relationships, just understand them. common core<br>NEGLECTS teaching converting logarithms to different bases.                           |                     |  |   |
| New Proposed<br>Standard<br>MACC.912.F-BF.2.6 | This is a new<br>standard taken<br>from the old NGSSS:<br>MA.912.A.8.6. | Use the change of base formula.  | х                   |  | Х   |

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|---------------------------------------|---|---|---------------------|--|---|
| Current Standard<br>MACC.912.F-IF.3.7 |   | <ul> <li>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</li> <li>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.</li> <li>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.</li> <li>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</li> <li>d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.</li> <li>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</li> </ul> |                     |  |   |

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|--|--|--|---------------------|--|---|
| Proposed Standard<br>MACC.912.F-IF.3.7 | Added phase shifts<br>as recommended by<br>the comments. | Graph functions expressed symbolically and show key features of the<br>graph, by hand in simple cases and using technology for more<br>complicated cases. a.Graph linear and quadratic functions and show<br>intercepts, maxima, and minima.<br>b.Graph square root, cube root, and piecewise-defined functions,<br>including step functions and absolute value functions.<br>c.Graph polynomial functions, identifying zeros when suitable<br>factorizations are available, and showing end behavior.<br>d.Graph rational functions, identifying zeros and asymptotes when<br>suitable factorizations are available, and showing end behavior.<br>e.Graph exponential and logarithmic functions, showing intercepts<br>and end behavior, and trigonometric functions, showing period,<br>midline, and amplitude, and using phase shift. | X                   |  | Х   |
| MACC.912.F-TF.1.1                      | Parent   | Conversion between degrees and radians is missing  |                     |  |   |
| Current Standard<br>MACC.912.F-TF.1.1  |  | Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.  |                     |  |   |

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|--|---|--|---------------------|--|---|
| Proposed Standard<br>MACC.912.F-TF.1.1     | Clarifies the intent of the standard.   | Understand radian measure of an angle as the length of the arc on<br>the unit circle subtended by the angle; Convert between degrees and<br>radians.     | х                   |  | Х   |
| MACC.912.F-TF.3.9                          | Parent                                  | Poor coverage of trigonometric functions. Missing trigonometric functions of double angles and half angles.  |                     |  |   |
| Current Standard<br>MACC.912.F-TF.3.9      |   | Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.  |                     |  |   |
| Proposed Standard<br>MACC.912.F-TF.3.9     | Public Comment<br>Recommendation        | Prove the addition and subtraction, half-angle, and double-angle<br>formulas for sine, cosine, and tangent and use these formulas to<br>solve problems.  | х                   |  | Х   |
| MACC.912.G-<br>CO.2.8                      | Teacher                                 | Use this with proving triangles congruent, along with H-L  |                     |  |   |
| Current Standard<br>MACC.912.G-<br>CO.2.8  |   | Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.                 |                     |  |   |
| Proposed Standard<br>MACC.912.G-<br>CO.2.8 | Agreed with<br>comment.                 | Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions. | х                   | Х  |   |

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|--|---|---|---------------------|--|---|
| MACC.912.G-<br>CO.3.9                      | District<br>Administrator               | MACC.912.A-APR.3.4 includes prove and apply yet this is not seen in<br>several of the geometry standards. I certainly don't want to repeat<br>this comment on every "prove theorems" standard. It appears from<br>these standards that the only proofs will be to prove a theorem<br>rather than to use theorems/postulates/definitions to prove<br>something about a geometric figure. Of all the standards that I feel<br>need a rehaul the geometry standards need reevaluating. |                     |  |   |
| MACC.912.G-<br>CO.3.9                      | Teacher                                 | USE the theorems not just PROVE the theorems  |                     |  |   |
| Current Standard<br>MACC.912.G-<br>CO.3.9  |   | Prove theorems about lines and angles. Theorems include: vertical<br>angles are congruent; when a transversal crosses parallel lines,<br>alternate interior angles are congruent and corresponding angles are<br>congruent; points on a perpendicular bisector of a line segment are<br>exactly those equidistant from the segment's endpoints.   |                     |  |   |
| Proposed Standard<br>MACC.912.G-<br>CO.3.9 | Public Comment<br>Recommendation        | Prove theorems about lines and angles; use theorems about lines<br>and angles to solve problems. Theorems include: vertical angles are<br>congruent; when a transversal crosses parallel lines, alternate<br>interior angles are congruent and corresponding angles are<br>congruent; points on a perpendicular bisector of a line segment are<br>exactly those equidistant from the segment's endpoints.   | х                   | Х  |   |
| MACC.912.G-<br>CO.3.10                     | Parent                                  | Missing triangle inequality theorem   |                     |  |   |
| MACC.912.G-<br>CO.3.10                     | Teacher                                 | To be clearer add the phrase 'of the third side' after the word<br>'length'.  |                     |  |   |

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|---|---|---|---------------------|--|---|
| Current Standard<br>MACC.912.G-<br>CO.3.10  |   | Prove theorems about triangles. Theorems include: measures of<br>interior angles of a triangle sum to 180°; base angles of isosceles<br>triangles are congruent; the segment joining midpoints of two sides<br>of a triangle is parallel to the third side and half the length; the<br>medians of a triangle meet at a point.   |                     |  |   |
| Proposed Standard<br>MACC.912.G-<br>CO.3.10 | Public Comment<br>Recommendation        | Prove theorems about triangles; use theorems about triangles to<br>solve problems. Theorems include: measures of interior angles of a<br>triangle sum to 180°; triangle inequality theorem; base angles of<br>isosceles triangles are congruent; the segment joining midpoints of<br>two sides of a triangle is parallel to the third side and half the length;<br>the medians of a triangle meet at a point. | Х                   | Х  |   |
| MACC.912.G-<br>CO.3.11                      | Teacher                                 | USE the theorems not just PROVE the theorems  |                     |  |   |
| Current Standard<br>MACC.912.G-<br>CO.3.11  |   | Prove theorems about parallelograms. Theorems include: opposite<br>sides are congruent, opposite angles are congruent, the diagonals of<br>a parallelogram bisect each other, and conversely, rectangles are<br>parallelograms with congruent diagonals.  |                     |  |   |
| Proposed Standard<br>MACC.912.G-<br>CO.3.11 | Public Comment<br>Recommendation        | Prove theorems about parallelograms; use theorems about<br>parallelograms to solve problems. Theorems include: opposite sides<br>are congruent, opposite angles are congruent, the diagonals of a<br>parallelogram bisect each other, and conversely, rectangles are<br>parallelograms with congruent diagonals.  | Х                   | Х  |   |

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|-------------------------------------|---|--|---------------------|--|---|
| Addition of 52<br>Calculus Standard | Public Comment<br>Recommendation        | To maintain Florida's support for college readiness the current Next<br>Generation Sunshine State Calculus standards will be included in the<br>adoption of this new set of Florida standards. |                     |  |   |