Oklahoma Academic Standards- Mathematics

Oklahoma adopted the Common Core State Standards to serve as Oklahoma's Academic Standards for Mathematics. These new academic state standards will be implemented in grades K–2 during the 2012-2013 school year, while all grade levels will be expected to incorporate the Mathematical Practices and Mathematics Shifts in Instruction into teaching and learning. In 2014–2015, grades 3-8, Algebra 1, Geometry, Algebra 2 and all other high school mathematics courses will begin fully implementing the new standards for mathematics.

Standards for Mathematical Practice

- **Make sense** of problems and **persevere** in solving them
- **Reason** abstractly and quantitatively
- Construct viable **arguments** and critique the **reasoning** of others
- **Model** with mathematics
- Use appropriate tools **strategically**
- Attend to **precision**
- Look for and make use of **structure**
- Look for and express regularity in **repeated reasoning**

Mathematics Shifts in Instruction

- Involve students in **rich problem-based tasks** that encourage them to persevere in order to reach a solution
- Provide opportunities for students to solve problems that have **multiple solution pathways**
- Encourage students to **represent their thinking** while problem solving
- Encourage student use of **developmentally and content appropriate models**
- Promote application of **mathematical contexts** to highlight connections to the real world and across mathematical concepts

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Comparisons

Current State Standards	Revised State Standards
Grade Four Mathematics (PASS) 1.b.c - Compare, add, or subtract fractional parts (fractions with like denominators and decimals) using physical or pictorial models.	**Grade Four Mathematics** 4.NF.1 - Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. 4.NF.3c - 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.
Grade Eight Mathematics (PASS) 1.1.a - Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.	**Grade Eight Mathematics (OC^3)** 8.EE.7b - Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
Algebra 2 (PASS) 3.3 - Express the trigonometric functions as ratios and use sine, cosine, and tangent ratios to solve real-world problems.	**Algebra 2 (OC^3)** F.TF.5 - Prove t2he Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.

For More Information

To read the standards, view illustrative tasks and watch the Standards for Mathematical Practice in action, visit http://www.illustrativemathematics.org.