

6th Grade Math At-A-Glance

Common Core State Standards



Critical Areas	What's New?	What's Different?	What's Fluent?
<ul style="list-style-type: none"> 1 Understand ratio concepts and use ratio reasoning to solve problems 2 Apply and extend previous understandings of multiplication and division to divide fractions by fractions 3 Apply and extend previous understandings of arithmetic to algebraic expressions 4 Reason about and solve one-variable equations and inequalities 5 Represent and analyze quantitative relationships between dependent and independent variables 	<ul style="list-style-type: none"> 1 Understand and use ratio concepts, reasoning, relationships 2 Find and use common factors, multiples, GCF, LCM 3 Understand and extend rationals- order, positions on the number line, absolute value, inequalities 4 Read, write, and evaluate expressions- equivalent, vocabulary 5 Represent analyze quantitative relationships between dependent and independent variables 6 Find area, surface area, volume of 2 and 3 dimensional figures, nets 7 Understand statistical 8 Display various data plots 	<ul style="list-style-type: none"> 1 Integer operations 2 Primes, composites, patterns 3 Characteristics of 3-D figures 4 Congruent and similar figures 5 Circles 6 Converting measurements 7 Counting principle 	<ul style="list-style-type: none"> 1 Multi-digit division 2 Multi-digit operations with decimals

Note: Topics may appear to be similar between PASS and CCSS; however, CCSS may be presented at a higher cognitive demand.

Required Fluencies

Grade	Required Fluency
Kindergarten	Add/subtract within 5
1st	Add/subtract within 10
2nd	Add/subtract within 20 (memorized facts) • Add/subtract within 100
3rd	Multiply/divide within 100 (memorized facts) • Add/subtract within 1000
4th	Add/subtract within 1,000,000
5th	Multi-digit multiplication
6th	Multi-digit division • Multi-digit decimal operations
7th	Solve $px + q = r$, $p(x + q) = r$ Operations with rationals • Solve multi step problems with rationals
8th	Solve simple 2×2 systems by inspection • Know the formulas for volume Solve one variable linear equations

7th Grade Math At-A-Glance

Common Core State Standards



Critical Areas	What's New?	What's Different?	What's Fluent?
<ul style="list-style-type: none"> 1 Analyze proportional relationships and use them to solve real-world and mathematical problems 2 Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers 3 Use properties of operations to generate equivalent expressions 4 Solve real-life and mathematical problems using numerical and algebraic expressions and equations 	<ul style="list-style-type: none"> 1 Operations with rational numbers 2 Understand that the sum of opposite rationals is 0 and represent absolute value on the number line 3 Convert rational numbers to decimals using division 4 Manipulate linear expressions with rational coefficients 5 Draw, Construct geometric figures, describe their relationships including scale drawings and finding an unknown measurement 6 Use random sampling to draw inferences 7 Volume and surface area 8 Statistics 	<ul style="list-style-type: none"> 1 Perfect squares, square roots 2 Classification of geometric figures 3 Perimeter 4 Parallel lines, transversals 5 Transformations 	<ul style="list-style-type: none"> 1 Solve $px + q = r$, $p(x + q) = r$ 2 Operations with rationals 3 Solve multi step problems with rationals

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6th	Multi-digit division • Multi-digit decimal operations
7th	Solve $px + q = r$, $p(x + q) = r$ Operations with rationals • Solve multi step problems with rationals
8th	Solve simple 2×2 systems by inspection • Know the formulas for volume Solve one variable linear equations

8th Grade Math At-A-Glance

Common Core State Standards



Critical Areas	What's New?	What's Different?	What's Fluent?
<ul style="list-style-type: none"> ① Work with radicals and integer exponents ② Understand the connections between proportional relationships, lines and linear equations ③ Analyze and solve linear equations and pairs of simultaneous linear equations ④ Define, evaluate and compare functions ⑤ Understand congruence and similarity using physical models, transparencies or geometry software ⑥ Understand and apply the Pythagorean Theorem 	<ul style="list-style-type: none"> ① Irrational Numbers ② Radicals and integer exponents-perform operations with number in scientific notation ③ Square roots and cube roots of small perfect squares and cubes. Decimal approximations of square roots ④ Understand the connections between proportional relationships, lines, and linear equations ⑤ Analyze and solve linear equations and pairs of simultaneous linear equations ⑥ Functions ⑦ Understand congruence and similarity using transformations and physical models, transparencies, or geometry software ⑧ Parallel lines and transversals ⑨ Triangle Sum Theorem; Exterior Angle Theorem ⑩ Prove the Pythagorean Theorem and its converse ⑪ Solve real-world and mathematical problems involving volume of cones, spheres, cylinders. Know the formulas ⑫ Investigate patterns of bivariate data 	<ul style="list-style-type: none"> ① Inequalities ② Simplify numerical expressions using order of operations ③ Construct geometric models ④ Surface Area ⑤ Volume of prisms ⑥ Area of a "region of a region" ⑦ Sampling ⑧ Central Tendency 	<ul style="list-style-type: none"> ① Solve simple 2 x 2 systems by inspection ② Know the formulas for volume ③ Solve one variable linear equations

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