

Study Guide

The objectives listed in the table are from the Common Core Standards and those selected by the *Core Academic Skills for Educators: Mathematics (5732)*. You can click on the resource to provide practice. PLEASE NOTE: According to the Educational Testing System (ETS) the problems on the Praxis CORE are from the 6th-10th grade Common Core State Standards.

Objectives		Then try...
Understand ratio concepts and use ratio reasoning to solve problems		https://learnzillion.com/resources/17038-math-lesson-plans-6th-grade https://www.illustrativemathematics.org/7
Analyze proportional relationships and use them to solve real-world and mathematical problems.		https://www.ixl.com/standards/common-core/math/grade-7 https://www.illustrativemathematics.org/content-standards/6/RP/A/3/tasks/54
Apply understanding of multiplication and division to divide fractions by fractions.		https://learnzillion.com/lessons/204-use-models-for-division-of-fractions-by-fractions https://www.illustrativemathematics.org/content-standards/5/NF
Compute fluently with multi-digit numbers and find common factors and multiples		http://www.cpalms.org/Public/PreviewIdea/Preview/1480 https://www.illustrativemathematics.org/NS
Apply understanding of operations with fractions to add, subtract, multiply, and divide rational numbers.		http://learnzillion.com/lessonsets/154-add-subtract-multiply-and-divide-rational-expressions
Know that there are numbers that are not rational, and approximate them by rational numbers.		https://www.ixl.com/math/grade-8/identify-rational-and-irrational-numbers https://www.ixl.com/math/grade-8/convert-between-decimals-and-fractions-or-mixed-numbers https://www.ixl.com/math/grade-8/estimate-positive-and-negative-square-roots https://www.ixl.com/math/grade-8/estimate-cube-roots
Work with radicals and integer exponents.		http://www.cpalms.org/Public/PreviewIdea/Preview/1498

Reason quantitatively and use units to solve problems.		http://www.ck12.org/user:bHlhLnNuZWxsQGhlbnJ5LmsxMi5nYS51cw../book/CCGPS-Math-I-Coordinate-Algebra/r273/section/1.1/
Apply understanding of arithmetic to algebraic expressions.		http://www.cpalms.org/Public/Previewidea/Preview/1482
Solve real-life and mathematical problems using numerical expressions.		https://learnzillion.com/lessons/3208-represent-a-real-world-situation-as-a-numerical-expression
Use properties of operations to generate equivalent expressions.		https://www.ixl.com/math/grade-7/add-and-subtract-like-terms https://www.ixl.com/math/grade-7/properties-of-addition-and-multiplication https://www.ixl.com/math/grade-7/distributive-property https://www.ixl.com/math/grade-7/simplify-variable-expressions-using-properties
Understand the connections between proportional relationships, lines, and linear equations.		Please scroll down to 8.EE.B. https://www.ixl.com/standards/common-core/math/grade-8
Understand solving equations as a process of reasoning and explain the reasoning.		http://www.cpalms.org/Public/PreviewResource/Preview/100808
Reason about and solve one-variable equations and inequalities		https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-equations-and-inequalities/cc-6th-one-step-equation-mistakes/e/find-the-mistake-in-solving-one-step-equations
Solve equations and inequalities in one variable.		http://www.regentsprep.org/regents/math/algebra/AE8/LSolveIn.htm

Analyze and solve linear equations and pairs of simultaneous linear equations.		https://learnzillion.com/lessonsets/777-analyze-and-solve-pairs-of-simultaneous-linear-equations-solve-systems-in-two-equations-algebraically
Represent and solve equations and inequalities graphically.		http://www.regentsprep.org/regents/math/algebra/AE3/PracGr.htm http://www.khanacademy.org/math/algebra/solving-linear-inequalities/v/solving-inequalities http://www.khanacademy.org/math/algebra/solving-linear-inequalities/v/multi-step-inequalities-2
Interpreting functions that arise in applications in terms of the context.		http://www.ck12.org/algebra/Functions-that-Describe-Situations/ https://learnzillion.com/lessonsets/705-describe-functions-by-analyzing-and-building-graphs
Building functions: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.		http://www.cpalms.org/Public/PreviewIdea/Preview/1528 https://learnzillion.com/lessonsets/470
Draw, construct, and describe geometrical figures and describe the relationships between them.		https://learnzillion.com/resources/57268-7th-grade-geometry
Experiment with transformations in the plane.		https://www.khanacademy.org/search?search_again=1&page_search_query=Experiment+with+transformations+in+the+plane .
Understand and apply the Pythagorean Theorem		https://www.khanacademy.org/math/geometry/right_triangles_topic/pyth_theor/e/pythagorean_theorem_1
Understand and apply theorems about circles. Identify and describe relationships among inscribed angles, radii, and chords. <i>Include the relationship</i>		http://www.cpalms.org/Public/Previewidea/Preview/1545 Scroll down to find circles: https://www.ixl.com/math/geometry

<i>between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.</i>		
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.		http://www.virtualnerd.com/inventory/?id=9 https://www.ixl.com/math/grade-7/parts-of-a-circle https://www.ixl.com/math/grade-7/circles-calculate-area-circumference-radius-and-diameter https://www.ixl.com/math/grade-7/circles-word-problems https://www.ixl.com/math/grade-7/identify-complementary-supplementary-vertical-adjacent-and-congruent-angles https://www.ixl.com/math/grade-7/find-measures-of-complementary-supplementary-vertical-and-adjacent-angles https://www.ixl.com/math/grade-7/area-and-perimeter-word-problems
Explain volume formulas and use them to solve problems.		https://learnzillion.com/resources/46370
Apply geometric concepts in modeling situations.		http://www.cpalms.org/Public/PreviewIdea/Preview/1551 http://www.cpalms.org/Public/PreviewResourceAssessment/Preview/72102
Develop understanding of statistical variability		http://www.cpalms.org/Public/Previewidea/Preview/1486
Summarize and describe distributions		https://learnzillion.com/lessons/537-analyze-the-shape-of-a-graph-to-describe-the-distribution-of-data https://www.ixl.com/math/grade-8/mean-median-mode-and-range-find-the-missing-number https://www.ixl.com/math/grade-8/changes-in-mean-median-mode-and-range

Use random sampling to draw inferences about a population		https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling
Investigate chance processes and develop, use, and evaluate probability.		https://www.illustrativemathematics.org/content-standards/7/SP/C
Summarize, represent, and interpret data on a single count or measurement variable		http://www.shodor.org/interactivate/standards/organization/objective/2331/
Interpret linear models		https://learnzillion.com/lessonsets/254
Understand and evaluate random processes underlying statistical experiments.		https://learnzillion.com/lesson_plans/497#fndtn-lesson https://learnzillion.com/lesson_plans/81#fndtn-lesson https://learnzillion.com/lesson_plans/863#fndtn-lesson
Use probability to evaluate outcomes of decisions.		https://www.khanacademy.org/commoncore/grade-HSS-S-MD