

**OREGON CONTENT STANDARDS IN MATHEMATIC EDUCATION
CORRELATION DOCUMENT
MATH CONNECTS**

Common Curriculum Goals
Mathematic Skills.

It is essential that these standards be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations.

CONTENT STANDARDS	6 TH GRADE	REFERENCES
NUMBER AND OPERATIONS: Develop an understanding of fluency with multiplication and division of fractions and decimals.	6.1.1 Select and use appropriate strategies to estimate fractions and decimal products and quotients.	163, 169-170, 173-174, 179, 189, 276-279, 283, 287-288, 298, 305, 307
	6.1.2 Use and analyze a variety of strategies, including models, for solving problems with multiplication and division of fractions.	276-277, 280-301, 305-306
	6.1.3 Use and analyze a variety of strategies, including models, for solving problems with multiplication and division of decimals.	162-185, 189-190
	6.1.4 Develop fluency with efficient procedures for multiplying and dividing fractions and decimals and justify why the procedures work.	167-168, 173-174, 175 (#28), 177-180, 182 (#41, 42), 189, 276-277, 278 (#32, 37), 280-283, 285 (#42-47), 287-288, 290 (#38-40)292-293, 296(#43), 298-299, 301-(#32-34), 306
	6.1.5 Apply the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions and justify why they work.	293, 657
	6.1.6 Apply the properties of operations to simplify calculations.	37-40, 259, 267, 285, 296, 632-640
	6.1.7 Use the relationship between common decimals and fractions to solve problems including problems involving measurement.	231(#28-30), 241-242, 376
NUMBER AND OPERATIONS and PROBABILITY: Connect ratio, rate, and percent to multiplication and division.	6.2.1 Develop, analyze, and apply the meaning of ratio, rate, and percent to solve problems.	314-328, 355-356, 364-380, 401-405, 407
	6.2.2 Determine decimal and percent equivalents for common fractions, including approximations.	365-369, 371, 377-380, 401-404, 406-407, 410
	6.2.3 Understand the meaning of probability and represent probabilities as ratios, decimals, and percents.	381-386, 390-393, 395-396, 406, 408-409

OREGON CONTENT STANDARDS IN MATHEMATIC EDUCATION
CORRELATION DOCUMENT
MATH CONNECTS

	6.2.4 Determine simple probabilities, both experimental and theoretical.	381-386, 387-398
	6.2.5 Develop the concept of π as the ratio of the circumference of a circle to its diameter.	528-533, 561-562
ALGEBRA: Write, interpret, and use mathematical expressions and equations.	6.3.1 Use order of operations to simplify expressions that may include exponents and grouping symbols.	37-40, 43, 70, 259, 267, 285, 296
	6.3.2 Develop the meanings and uses of variable.	42a, 42 - 53, 57, 70
	6.3.3 Write, evaluate, and use expressions and formulas to solve problems.	9, 42-46, 49-53, 61-62, 70, 158-159, 164, 170-171, 265-266, 283-285, 288-289, 299, 358, 530-532, 535-545, 548-553, 555-559, 562-564, 629, 633-641, 663-664
	6.3.4 Identify and represent equivalent expressions (e.g. different ways to see a pattern).	322-324, 341-349, 357, 431, 539, 662 636
	6.3.5 Represent, analyze, and determine relationships and patterns using tables, graphs, words and when possible, symbols.	45, 49-53, 55, 81-91, 99, 127-128, 140, 144, 159, 223, 259, 267, 273, 317, 318, 332, 337, 338, 343-348, 358, 368, 440, 453, 537, 552,
	6.3.6 Recognize that the solutions of an equation are the values of the variables that make the equation true.	57-60, 642-643
	6.3.7 Solve one-step equations by using number sense, properties of operations, and the idea of maintaining equality on both sides of an equations.	57-60, 642 - 667

**OREGON CONTENT STANDARDS IN MATHEMATIC EDUCATION
CORRELATION DOCUMENT
MATH CONNECTS**

Common Curriculum Goals
Mathematic Skills.

It is essential that these standards be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations.

CONTENT STANDARDS	7 TH GRADE	REFERENCES
NUMBER & OPERATIONS & ALGEBRA: Develop an understanding of operations on all rational numbers and solving linear equations.	7.1.1 Develop, analyze, and apply models (including everyday contexts), strategies, and procedures to compute with integers, with an emphasis on negative integers.	80 – 117, 120-122 Negative emphasis: 85 (#1-6), 86 (#7-19), 87 (#32-36), 100, 106 (#50-59)
	7.1.2 Extend knowledge of integers and positive rational numbers to solve problems involving negative rational numbers.	Course 3 – 119-121, ‘Word Problem Practice’ 119b
	7.1.3 Develop and use strategies to estimate the result of rational number computations and justify the reasonableness of results.	Course 1 – 150-158, 163-164, 169-170, 173-174, 257, 270-271, 276-279, 283, 287-288, 298-299
	7.1.4 Apply properties of rational numbers and algebra to write and solve linear equations in one variable.	(49-56, 73, 134-147, 151-155, 164-167, 170-172, 258-262, 274) No negative rational numbers. Course 3 – 119-121, ‘Word Problem Practice’ 119b
NUMBER & OPERATIONS, ALGEBRA & GEOMETRY: Develop an understanding of and apply proportionality, including similarity.	7.2.1 Represent proportional relationships with coordinate graphs and tables, and identify unit rate as the slope of the related line.	63-69, 287-297, 310-314, 317, 326, 342-343
	7.2.2 Apply ratio and proportionality to solve problems, including percent and simple probability.	202-205, 282-286, 310-315, 335, 350-383, 385, 461, 486-490
	7.2.3 Use coordinate graphs, tables, and equations to distinguish proportional relationships from other relationships, including inverse proportionality.	282-286, 310-316, 345
	7.2.4 Develop and use scale factors and proportional relationships to solve problems, including similarity and congruence.	320-327, 336, 540-545, 565, 654
	7.2.5 Convert among different units of measurement to solve problems, including rates.	298-309, 335, 747
	7.2.6 Apply scale factor to analyze how the change in one measure (e.g., length, area, volume) affects another.	320-327, 336, 654-655

OREGON CONTENT STANDARDS IN MATHEMATIC EDUCATION
CORRELATION DOCUMENT
MATH CONNECTS

<p>MEASUREMENT & GEOMETRY: Develop an understanding of and use formulas to determine surface area and volume.</p>	<p>7.3.1 Use models to explain the reasonableness of formulas for the circumference and area of circles.</p>	<p>583, 589</p>
	<p>7.3.2 Know common estimates of π and use these values to estimate and calculate the circumference and area of a circle.</p>	<p>583-593, 627-628</p>
	<p>7.3.3 Solve problems involving areas and circumferences of circles.</p>	<p>583-593, 627-628</p>
	<p>7.3.4 Use models to explain the reasonableness of formulas for the surface area of pyramids and cylinders, and volume of pyramids, cylinders, and cones.</p>	<p>Cylinders: Volume: 619 Surface Area: 656 Course 3 - Pyramid: Volume: 380 Surface area:: 393-394 Cone: Volume: 381</p>
	<p>7.3.5 Find and justify relationships among the formulas for the areas of different polygons when determining surface area.</p>	<p>572-581, (rectangular prism)649, (cylinder)657 Course 3 - 380</p>
	<p>7.3.6 Solve problems involving surface areas of pyramids and cylinders and volumes of pyramids, cylinders, and cones.</p>	<p>Cylinders: Volume: 620-623 Surface Area: 567-660 Course 3 - Pyramid; Volume: 382-384 Surface Area: 394-396 Cone: Volume: 382-384</p>
	<p>7.3.7 Estimate and compute the area and volume of complex or irregular shapes by dividing them into basic shapes.</p>	<p>596-599, 617</p>

OREGON CONTENT STANDARDS IN MATHEMATIC EDUCATION
CORRELATION DOCUMENT
MATH CONNECTS

Common Curriculum Goals
Mathematic Skills.

It is essential that these standards be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations.

CONTENT STANDARDS	8 TH GRADE	REFERENCES
ALGEBRA: Analyze and represent linear functions and solve linear equations and systems of linear equations.	8.1.1 Translate among contextual, verbal, tabular, graphical, and algebraic representations of linear functions.	204-209, 244, 469-480, 500-501, 519
	8.1.2 Determine the slope of a line and understand that it is a constant rate of change.	204-209, 244, 481-492, 495-501, 520-521, 528-533, 564
	8.1.3 Identify and interpret the properties (i.e. slope, intercepts, continuity, and discreteness) of linear relationships as they are shown in the different representations and recognize proportional relationships ($y/x = k$ or $y = kx$) as a special case.	194-197, 204-209, 243, 244, 475-480, 487-493, 495-501, 519-521, 528-533, 564
	8.1.4 Use linear functions and equations to represent, analyze and solve problems, and to make predictions and inferences.	422-437, 455-456, 478-479, 496-501, 505-507, 519-521, 528-533, 564, 589
	8.1.5 Relate systems of two linear equations in two variables and their solutions to pairs of lines that are intersecting, parallel, or the same line.	502-507, 521
	8.1.6 Use informal strategies (e.g., graphs or tables) to solve problems involving systems of linear equations in two variables.	504-507, 521
DATA ANALYSIS & ALGEBRA: Analyze and summarize data sets.	8.2.1 Organize and display data (e.g., histograms, box-and-whisker plots, scatter plots) to pose and answer questions, and justify the reasonableness of the choice of display.	510-517, 522, 576-590, 605-621, 623-626, 749
	8.2.2 Use measures of center and spread to summarize and compare data sets.	591-615, 624, 625, 742-745
	8.2.3 Interpret and analyze displays of data and descriptive statistics.	15, 510-517, 522, 576-626, 749, 750
	8.2.4 Compare descriptive statistics and evaluate how changes in data affect those statistics.	500-501, 587 (#16-18)

OREGON CONTENT STANDARDS IN MATHEMATIC EDUCATION
CORRELATION DOCUMENT
MATH CONNECTS

	8.2.5 Describe the strengths and limitations of a particular statistical measure, and justify or critique its use in a given situation.	591-598, 624, 653-657
	8.2.6 Use sample data to make predictions regarding a population.	653-658, 662
	8.2.7 Identify claims based on statistical data and evaluate the reasonableness of claims.	510-515, 522, 576-580, 582-588, 606-610, 616 (#22), 635 (#28), 646 (#13-15, 22), 656-657 (# 12, 14-15)
	8.2.8 Use data to estimate the likelihood of future events and evaluate the reasonableness of predictions.	632-649, 653-658
GEOMETRY & MEASUREMENT: Analyze two- and three-dimensional spaces and figures by using distance and angle.	8.3.1 Use properties of parallel lines, transversals, and angles to find missing sides and angles, and to solve problems including determining similarity or congruence of triangles.	306-313, 320-322, 326, 343-344
	8.3.2 Use models to show that the sum of the angles of any triangle is 180 degrees and apply this fact to find unknown angles.	312, 314a, 319(#22), 737
	8.3.3 Use models and logical arguments to show that the sum of the angles of any quadrilateral is 360 degrees, and apply this fact to find unknown angles.	316, 321-322 Course 2 534-537
	8.3.4 Use models to explore the validity of the Pythagorean Theorem, and use it to find missing lengths.	161-172, 181-182
	8.3.5 Apply the Pythagorean Theorem to find distances in a variety of 2- and 3-dimensional contexts, including distances on coordinate graphs.	167-178, 182
	8.3.6 Use models and referents to explore and estimate square roots.	144-151, 172, 180