GRADES 3–12

Third Edition
TRANSMATH®

TransMath, Grades 3–12

Correlated to the Virginia Standards of Learning

December 2015

VOYAGER SOPRIS LEARNING®

***TransMath Third Edition* Correlated to**
Virginia Standards of Learning
Grades 3 – 12

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Grade 3			
Number and Number Sense Focus: Place Value and Fractions			
3.1 The student will			
a) read and write six-digit numerals and identify the place value and value of each digit;	**Unit 1:** Lesson 1, Building Number Concepts (9-13); Lesson 2, Building Number Concepts (18-21); Lesson 3, Building Number Concepts (27-29)		
b) round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand; and	**Unit 1:** Lesson 10, Building Number Concepts (77-82); Lesson 11, Building Number Concepts (87-90); Lesson 11, Problem Solving (91-92); Lesson 15, Building Number Concepts (113-115) **Unit 2:** Lesson 6, Building Number Concepts (169-172); Lesson 7, Building Number Concepts (178-180); Lesson 7, Problem Solving (181-182); **Unit 2:**, Lesson 8, Building Number Concepts (184-187); Lesson 8, Problem Solving (188-189); Lesson 9, Building Number Concepts (192-193); Lesson 9, Problem Solving (194-195); Lesson 13, Problem Solving (224-225); Lesson 15, Building Number Concepts (235-238)		
c) compare two whole numbers between 0 and 9,999, using symbols (>, <, or =) and words (*greater than, less than*, or *equal to*).			
3.2 The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. The student will use these relationships to solve problems.			
3.3 The student will			
a) name and write fractions (including mixed numbers) represented by a model;	**Unit 8:** Lesson 1, Building Number Concepts (837-841); Lesson 2, Building Number Concepts (847-849); Lesson 3, Building Number Concepts (854-857); Lesson 4, Building Number Concepts (864-868); Lesson 6, Building Number Concepts (881-884); Lesson 7, Building Number Concepts (890-892); Lesson 8, Building Number Concepts (897-899); Lesson 9, Building Number Concepts (905-907); Lesson 14, Building Number Concepts (943-945)	**Unit 1:** Lesson 1, Building Number Concepts (9-11); Lesson 1, Problem Solving (12-13); Lesson 2, Building Number Concepts (16-18)Lesson 2, Problem Solving (19-20); Lesson 3, Building Number Concepts (23-26); Lesson 3, Problem Solving (27-29); Lesson 4, Building Number Concepts (32-34); Lesson 4, Problem Solving (35-37); Lesson 5, Building Number Concepts (40-43); Lesson 6, Building Number Concepts (48-50); Lesson 6, Problem Solving (51-53); Lesson 7, Building Number Concepts (56-58); Lesson 7, Problem Solving (59-62); Lesson 8, Building Number Concepts (65-67); Lesson 8, Problem Solving (68-69); Lesson 9, Building Number Concepts (72-75); Lesson 9, Problem Solving (76-	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
		78); Lesson 10, Building Number Concepts (81-88);Lesson 10, Problem Solving (89-92)	
b) model fractions (including mixed numbers) and write the fractions' names; and	**Unit 8:** Lesson 3, Building Number Concepts (854-857); Lesson 4, Building Number Concepts (864-868); Lesson 6, Building Number Concepts (881-884); Lesson 7, Building Number Concepts (890-892); Lesson 8, Building Number Concepts (897-899); Lesson 9, Building Number Concepts (905-907)	**Unit 1:** Lesson 1, Building Number Concepts (9-11); Lesson 1, Problem Solving (12-13); Lesson 2, Building Number Concepts (16-18); Lesson 2, Problem Solving (19-20); Lesson 3, Building Number Concepts (23-26); Lesson 3, Problem Solving (27-29); Lesson 4, Building Number Concepts (32-34); Lesson 4, Problem Solving (35-37); Lesson 5, Building Number Concepts (40-43); Lesson 6, Building Number Concepts (48-50); Lesson 6, Problem Solving (51-53); Lesson 7, Building Number Concepts (56-58); Lesson 7, Problem Solving (59-62); Lesson 8, Building Number Concepts (65-67); Lesson 8, Problem Solving (68-69); Lesson 9, Building Number Concepts (72-75); Lesson 9, Problem Solving (76-78); Lesson 10, Building Number Concepts (81-88); Lesson 10, Problem Solving (89-92)	
c) compare fractions having like and unlike denominators, using words and symbols (>, <, or =).	**Unit 8:** Lesson 10, Building Number Concepts (913-915); Lesson 11, Building Number Concepts (920-922); Lesson 12, Building Number Concepts (928-931); Lesson 13, Building Number Concepts (936-940); Lesson 15, Building Number Concepts (950-954)	Lesson 1, Building Number Concepts (107-108); Lesson 1, Problem Solving (109-112); Lesson 2, Building Number Concepts (115-117); Lesson 2, Problem Solving (118-120); Lesson 3, Building Number Concepts (123-127); Lesson 3, Problem Solving (128-129); Lesson 4, Building Number Concepts (133-135); Lesson 4, Problem Solving (136-138); Lesson 5, Building Number Concepts (141-145)	
Computation and Estimation Focus: Computation and Fraction Operations			
3.4 The student will estimate solutions to and solve single-step and multistep problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping.	**Unit 1:** Lesson 4, Building Number Concepts (34-35); Lesson 6, Building Number Concepts (47-49); Lesson 7, Building Number Concepts (54-57); Lesson 8, Building Number Concepts (62-64); Lesson 9, Building Number Concepts (69-72); Lesson 11, Building Number Concepts (87-90); Lesson 12, Building Number Concepts (95-97); Lesson 13, Building Number Concepts (102-103); Lesson 15, Building Number Concepts (113-115) **Unit 2:** Lesson 1, Building Number Concepts (133-135); Lesson 1, Problem Solving (134-137); Lesson 2, Building Number Concepts (140-143); Lesson 2, Problem Solving (144-145); Lesson 3, Building Number Concepts (148-150); Lesson 3, Problem Solving (151-152); Lesson 4, Building Number		

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
	Concepts (154-157); Lesson 4, Problem Solving (158-159); Lesson 5, Building Number Concepts (162-164); Lesson 6, Building Number Concepts (169-172); Lesson 6, Problem Solving (173-175); Lesson 7, Building Number Concepts (178-180); Lesson 7, Problem Solving (181-182); Lesson 8, Building Number Concepts (184-187); Lesson 8, Problem Solving (188-189); Lesson 9, Building Number Concepts (192-193); Lesson 9, Problem Solving (); Lesson 10, Building Number Concepts (198-201); Lesson 11, Building Number Concepts (206-208); Lesson 11, Problem Solving (209-210); Lesson 12, Building Number Concepts (213-216); Lesson 12, Problem Solving (217-218); Lesson 13, Building Number Concepts (221-223); Lesson 13, Problem Solving (224-225); Lesson 14, Building Number Concepts (228-230); Lesson 15, Building Number Concepts (235-238); Lesson 15, Problem Solving (239-240)		
3.5 The student will recall multiplication facts through the twelves table, and the corresponding division facts.	**Unit 3:** Lesson 1, Building Number Concepts (253-255); Lesson 2, Building Number Concepts (262-264); Lesson 3, Building Number Concepts (270-272); Lesson 4, Building Number Concepts (278-280); Lesson 5, Building Number Concepts (285-288); Lesson 6, Building Number Concepts (293-296); Lesson 7, Building Number Concepts (301-304); Lesson 8, Building Number Concepts (309-312); Lesson 9, Building Number Concepts (318-320); Lesson 10, Building Number Concepts (326-328); Lesson 11, Building Number Concepts (334-336); Lesson 15, Building Number Concepts (360-363) **Unit 4:** Lesson 1, Building Number Concepts (383-385); Lesson 2, Building Number Concepts (391-394); Lesson 3, Building Number Concepts (400-402); Lesson 4, Building Number Concepts (407-409) **Unit 5:** Lesson 1, Building Number Concepts (515-518); Lesson 3, Building Number Concepts (530-532); Lesson 4, Building Number Concepts (538-541); Lesson 5, Building Number Concepts (546-550); Lesson 6, Building Number Concepts (555-557); Lesson 7, Building Number Concepts (564-567); Lesson 8, Building Number Concepts (572-574); Lesson 10, Building Number Concepts (586-		

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
	588); Lesson 11, Building Number Concepts (593-597); Lesson 12, Building Number Concepts (602-605); Lesson 13, Building Number Concepts (611-613); Lesson 14, Building Number Concepts (618-620); Lesson 15, Building Number Concepts (625-628)		
3.6 The student will represent multiplication and division, using area, set, and number line models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.	**Unit 3:** Lesson 13, Problem Solving (346-351); Lesson 14, Problem Solving (354-357) **Unit 4:** Lesson 1, Problem Solving (386-388); Lesson 2, Problem Solving (395-397); Lesson 3, Building Number Concepts (400-402); Lesson 3, Problem Solving (403-404); Lesson 4, Building Number Concepts (407-409)		
3.7 The student will add and subtract proper fractions having like denominators of 12 or less.	**Unit 9:** Lesson 1, Building Number Concepts (971-975); Lesson 2, Building Number Concepts (981-984); Lesson 3, Building Number Concepts (989-990)		
Measurement Focus: U.S. Customary and Metric Units, Area and Perimeter, and Time			
3.8 The student will determine, by counting, the value of a collection of bills and coins whose total value is $5.00 or less, compare the value of the bills and coins, and make change.			
3.9 The student will estimate and use U.S. Customary and metric units to measure			
a) length to the nearest 1/2-inch, inch, foot, yard, centimeter, and meter;	**Unit 3:** Lesson 1, Problem Solving (256-259); Lesson 2, Problem Solving (265-267); Lesson 3, Problem Solving (273-275); Lesson 4, Problem Solving (281-282); Lesson 6, Problem Solving (297-298); Lesson 15, Problem Solving (364-369) **Unit 9:** Lesson 7, Building Number Concepts (1020-1022); Lesson 7, Problem Solving (1023-1025)	**Unit 3:** Lesson 2, Problem Solving (268-269)	
b) liquid volume in cups, pints, quarts, gallons, and liters;			
c) weight/mass in ounces, pounds, grams, and kilograms; and			
d) area and perimeter.			
3.10 The student will			
a) measure the distance around a polygon in order to determine perimeter; and		**Unit 6:** Lesson 9, Problem Solving (700-704)	
b) count the number of square units needed to cover a given surface in order to determine area.	**Unit 5:** Lesson 1, Problem Solving (519-520); Lesson 2, Problem Solving (523-527)		
3.11 The student will			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
a) tell time to the nearest minute, using analog and digital clocks; and			
b) determine elapsed time in one-hour increments over a 12-hour period.			
3.12 The student will identify equivalent periods of time, including relationships among days, months, and years, as well as minutes and hours.	**Unit 9:** Lesson 2, Problem Solving (985-986); Lesson 3, Problem Solving (991-994)		
3.13 The student will read temperature to the nearest degree from a Celsius thermometer and a Fahrenheit thermometer. Real thermometers and physical models of thermometers will be used.			
Geometry Focus: Properties and Congruence Characteristics of Plane and Solid Figures			
3.14 The student will identify, describe, compare, and contrast characteristics of plane and solid geometric figures (circle, square, rectangle, triangle, cube, rectangular prism, square pyramid, sphere, cone, and cylinder) by identifying relevant characteristics, including the number of angles, vertices, and edges, and the number and shape of faces, using concrete models	**Unit 6:** Lesson 1, Problem Solving (649-651); Lesson 2, Problem Solving (659-661); Lesson 3, Problem Solving (668-670); Lesson 10, Problem Solving (727-730)		**Unit 5:** Lesson 1, Problem Solving (546-550); Lesson 2, Problem Solving (556-558); Lesson 3, Problem Solving (565-567); Lesson 8, Problem Solving (613-614)
3.15 The student will identify and draw representations of points, line segments, rays, angles, and lines.			
3.16 The student will identify and describe congruent and noncongruent plane figures.	**Unit 6:** Lesson 4, Problem Solving (677-678); Lesson 6, Problem Solving (692-693); Lesson 10, Problem Solving (727-730)		
Probability and Statistics Focus: Applications of Data and Chance			
3.17 The student will			
a) collect and organize data, using observations, measurements, surveys, or experiments;	**Unit 9:** Lesson 7, Problem Solving (1023-1025)		
b) construct a line plot, a picture graph, or a bar graph to represent the data; and	**Unit 9:** Lesson 7, Problem Solving (1023-1025)		
c) read and interpret the data represented in line plots, bar graphs, and picture graphs and write a sentence analyzing the data.	**Unit 1:** Lesson 4, Problem Solving (36-38); Lesson 5, Problem Solving (41-42); Lesson 6, Problem Solving (50-51); Lesson 7, Problem Solving (58-59); Lesson 8, Problem Solving (65-66); Lesson 9, Problem Solving (72-74); Lesson 11, Problem Solving (91-92); Lesson 12, Problem Solving (98-99); Lesson 13, Problem Solving (104-105); Lesson 14, Problem Solving (108-110); Lesson 15, Problem Solving (117-120)		

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
	Unit 2: Lesson 2, Problem Solving (144-145); Lesson 3, Problem Solving (151-152); Lesson 4, Problem Solving (158-159); Lesson 6, Problem Solving (173-175); Lesson 14, Problem Solving (231-232); Lesson 15, Problem Solving (239-240) **Unit 9:** Lesson 8, Problem Solving (1032-1033)		
3.18 The student will investigate and describe the concept of probability as chance and list possible results of a given situation.			
Patterns, Functions, and Algebra Focus: Patterns and Property Concepts			
3.19 The student will recognize and describe a variety of patterns formed using numbers, tables, and pictures, and extend the patterns, using the same or different forms.			
3.20 The student will	**Unit 2:** Lesson 1, Building Number Concepts (133-135); Lesson 15, Building Number Concepts (235-238)		
a) investigate the identity and the commutative properties for addition and multiplication; and	**Unit 3:** Lesson 1, Building Number Concepts (253-255)		**Unit 2:** Lesson 2, Building Number Concepts (181-185)
b) identify examples of the identity and commutative properties for addition and multiplication.			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Grade 4			
Number and Number Sense Focus: Place Value, Fractions, and Decimals			
4.1 The student will	**Unit 9:** Lesson 5, Problem Solving (1005-1007); Lesson 6, Problem Solving (1016-1017)		
a) identify orally and in writing the place value for each digit in a whole number expressed through millions;			
b) compare two whole numbers expressed through millions, using symbols (>, <, or =); and			
c) round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.			
4.2 The student will			
a) compare and order fractions and mixed numbers;	**Unit 8:** Lesson 11, Building Number Concepts (920-922)	**Unit 1:** Lesson 7, Building Number Concepts (56-58); Lesson 10, Building Number Concepts (81-88);	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
		4.2.a **Unit 2:** Lesson 4, Building Number Concepts (133-135); Lesson 5, Building Number Concepts (141-145); Lesson 15, Building Number Concepts (232-239); Lesson 15, Problem Solving (240-243)	
b) represent equivalent fractions; and	**Unit 8:** Lesson 12, Building Number Concepts (928-931); Lesson 13, Building Number Concepts (936-940); Lesson 14, Building Number Concepts (943-945); Lesson 15, Building Number Concepts (950-954)	**Unit 2:** Lesson 7, Building Number Concepts (160-163); Lesson 7, Problem Solving (164-166); Lesson 8, Building Number Concepts (169-174); Lesson 9, Building Number Concepts (180-184); Lesson 10, Building Number Concepts (189-193); Lesson 11, Building Number Concepts (198-201); Lesson 12, Building Number Concepts (207-210); Lesson 13, Building Number Concepts (215-219); Lesson 14, Building Number Concepts (224-227); Lesson 15, Building Number Concepts (232-239) **Unit 3:** Lesson 5, Building Number Concepts (288-292); Lesson 7, Building Number Concepts (307-310) **Unit 4:** Lesson 5, Building Number Concepts (438-440)	**Unit 1:** Lesson 2, Building Number Concepts (20-27)
c) identify the division statement that represents a fraction.		**Unit 3:** Lesson 11, Building Number Concepts (342-345)	
4.3 The student will			
a) read, write, represent, and identify decimals expressed through thousandths;	**Unit 8:** Lesson 7, Building Number Concepts (890-892)	**Unit 5:** Lesson 1, Building Number Concepts (495-499);Lesson 2, Building Number Concepts (504-507);Lesson 3, Building Number Concepts (513-517);Lesson 4, Building Number Concepts (522-524); Lesson 8, Building Number Concepts (554-557); Lesson 9, Building Number Concepts (563-568); Lesson 10, Building Number Concepts (573-576); Lesson 11, Building Number Concepts (581-586); Lesson 12, Building Number Concepts (589-593); Lesson 13, Building Number Concepts (597-601); Lesson 14, Building Number Concepts (606-611); Lesson 15, Building Number Concepts (616-620)	
b) round decimals to the nearest whole number, tenth, and hundredth;	**Unit 4:** Lesson 13, Building Number Concepts (476-480); Lesson 14, Building Number Concepts (486-488); Lesson 15, Building Number Concepts (494-500)	**Unit 5:** Lesson 12, Building Number Concepts (589-593); Lesson 13, Building Number Concepts (597-601) **Unit 6:** Lesson 2, Building Number Concepts (649-652); Lesson 3, Building Number Concepts (657-660); Lesson 14, Building Number Concepts (740-744); Lesson 15, Building Number Concepts (747-751)	**Unit 1:** Lesson 8, Building Number Concepts (83-87)

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
c) compare and order decimals; and		**Unit 5:** Lesson 11, Building Number Concepts (581-586); Lesson 15, Building Number Concepts (616-620)	**Unit 1:** Lesson 10, Building Number Concepts (104-107)
d) given a model, write the decimal and fraction equivalents.	**Unit 8:** Lesson 9, Building Number Concepts (905-907)	**Unit 5:** Lesson 2, Building Number Concepts (504-507); Lesson 3, Building Number Concepts (513-517); Lesson 5, Building Number Concepts (529-533); Lesson 6, Building Number Concepts (538-540); Lesson 7, Building Number Concepts (545-549); Lesson 8, Building Number Concepts (554-557); Lesson 9, Building Number Concepts (563-568); Lesson 10, Building Number Concepts (573-576); Lesson 11, Building Number Concepts (581-586); Lesson 14, Building Number Concepts (606-611); Lesson 15, Building Number Concepts (616-620)	
Computation and Estimation Focus: Factors and Multiples, and Fraction and Decimal Operations			
4.4 The student will			
a) estimate sums, differences, products, and quotients of whole numbers;	**Unit 3:** Lesson 8, Building Number Concepts (309-312); Lesson 10, Building Number Concepts (326-328); Lesson 11, Building Number Concepts (334-336); Lesson 15, Building Number Concepts (360-363) **Unit 4:** Lesson 11, Building Number Concepts (462-464); Lesson 13, Building Number Concepts (476-480); Lesson 14, Building Number Concepts (486-488); Lesson 15, Building Number Concepts (494-500)		
b) add, subtract, and multiply whole numbers;	**Unit 3:** Lesson 1, Building Number Concepts (253-255); Lesson 2, Building Number Concepts (262-264); Lesson 2, Problem Solving (265-267); Lesson 3, Building Number Concepts (270-272); Lesson 4, Building Number Concepts (278-280); Lesson 4, Problem Solving (281-282); Lesson 5, Building Number Concepts (285-288); Lesson 6, Building Number Concepts (293-296); Lesson 6, Problem Solving (297-298); Lesson 7, Building Number Concepts (301-304); Lesson 7, Problem Solving (305-306); , Lesson 8, Building Number Concepts (309-312); Lesson 8, Problem Solving (313-315); Lesson 9, Building Number Concepts (318-320); Lesson 9, Problem Solving (321-323); Lesson 10, Building Number Concepts (326-328); Lesson 11, Building Number Concepts (334-336); Lesson 11,		

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
	Problem Solving (337-338); Lesson 13, Problem Solving (346-351); Lesson 14, Problem Solving (354-357); Lesson 15, Building Number Concepts (360-363); Lesson 15, Problem Solving (364-369)		
c) divide whole numbers, finding quotients with and without remainders; and	**Unit 4:** Lesson 2, Building Number Concepts (391-394); Lesson 3, Building Number Concepts (400-402); Lesson 3, Problem Solving (403-404); Lesson 4, Building Number Concepts (407-409); Lesson 4, Problem Solving (410-411); Lesson 5, Problem Solving (414-417); Lesson 6, Building Number Concepts (422-425); Lesson 6, Problem Solving (426-427); Lesson 7, Building Number Concepts (430-431); Lesson 7, Problem Solving (432-435); Lesson 8, Building Number Concepts (438-440); Lesson 8, Problem Solving (441-443); Lesson 9, Building Number Concepts (445-448); Lesson 9, Problem Solving (449-451); Lesson 10, Building Number Concepts (454-457); Lesson 11, Building Number Concepts (462-464); Lesson 11, Problem Solving (465-467); Lesson 12, Problem Solving (470-473); Lesson 13, Building Number Concepts (476-480); Lesson 13, Problem Solving (481-483); Lesson 14, Building Number Concepts (486-488); Lesson 14, Problem Solving (489-491); Lesson 15, Building Number Concepts (494-500); Lesson 15, Problem Solving (501-503)		
d) solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.	**Unit 3:** Lesson 8, Problem Solving (313-315); Lesson 9, Problem Solving (321-323); Lesson 11, Problem Solving (337-338); Lesson 15, Problem Solving (364-369)		
4.5 The student will			
a) determine common multiples and factors, including least common multiple and greatest common factor;	**Unit 5:** Lesson 1, Building Number Concepts (515-518); Lesson 3, Building Number Concepts (530-532); Lesson 4, Building Number Concepts (538-541); Lesson 5, Building Number Concepts (546-550); Lesson 6, Building Number Concepts (555-557); Lesson 7, Building Number Concepts (564-567); Lesson 8, Building Number Concepts (572-574); Lesson 10, Building Number Concepts (586-588); Lesson 13, Building Number Concepts (611-613); Lesson 14, Building Number Concepts (618-620); Lesson 15, Building Number Concepts (625-628) **Unit 6:** Lesson 1, Building Number Concepts (645-648); Lesson 2, Building Number Concepts (654-	**Unit 2:** Lesson 8, Building Number Concepts (169-174); Lesson 9, Building Number Concepts (180-184); Lesson 10, Building Number Concepts (189-193); Lesson 11, Building Number Concepts (198-201); Lesson 12, Building Number Concepts (207-210); Lesson 13, Building Number Concepts (215-219); Lesson 14, Building Number Concepts (224-227); Lesson 5, Building Number Concepts (288-292);Lesson 7, Building Number Concepts (307-310)	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
	658); Lesson 3, Building Number Concepts (664-667); Lesson 4, Building Number Concepts (673-676); Lesson 5, Building Number Concepts (681-683); Lesson 6, Building Number Concepts (687-691); Lesson 10, Building Number Concepts (722-726) **Unit 7:** Lesson 5, Building Number Concepts (775-777); Lesson 6, Building Number Concepts (782-784); Lesson 8, Building Number Concepts (796-798); Lesson 9, Building Number Concepts (806-809); Lesson 10, Building Number Concepts (815-820)		
b) add and subtract fractions having like and unlike denominators that are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fractions, using common multiples and factors;	**Unit 9:** Lesson 1, Building Number Concepts (971-975); Lesson 2, Building Number Concepts (981-984); Lesson 3, Building Number Concepts (989-990); Lesson 4, Building Number Concepts (997-1000); Lesson 6, Building Number Concepts (1012-1015); Lesson 8, Building Number Concepts (1028-1031); Lesson 8, Problem Solving (1032-1033); Lesson 10, Building Number Concepts (1041-1044)	**Unit 2:** Lesson 6, Building Number Concepts (151-154); Lesson 6, Problem Solving (155-157); Lesson 8, Building Number Concepts (169-174); Lesson 8, Problem Solving (175-177); Lesson 9, Building Number Concepts (180-184); Lesson 9, Problem Solving (185-186); Lesson 10, Building Number Concepts (189-193); Lesson 11, Building Number Concepts (198-201); Lesson 11, Problem Solving (202-204); Lesson 12, Building Number Concepts (207-210); Lesson 12, Problem Solving (211-212); Lesson 13, Building Number Concepts (215-219); Lesson 13, Problem Solving (220-221); Lesson 14, Building Number Concepts (224-227); Lesson 14, Problem Solving (228-229); Lesson 15, Building Number Concepts (232-239); Lesson 15, Problem Solving (240-243) **Unit 3:** Lesson 14, Building Number Concepts (369-371) **Unit 4:** Lesson 1, Building Number Concepts (397-401); Lesson 2, Building Number Concepts (406-411); Lesson 3, Building Number Concepts (416-422); Lesson 4, Building Number Concepts (428-431); Lesson 8, Building Number Concepts (462-463); Lesson 10, Building Number Concepts (475-477)	
c) add and subtract with decimals; and		**Unit 6:** Lesson 1, Building Number Concepts (639-643)	**Unit 1:** Lesson 9, Building Number Concepts (95-97); Lesson 15, Building Number Concepts (145-152)
d) solve single-step and multistep practical problems involving addition and subtraction with fractions and with decimals.		**Unit 2:** Lesson 6, Problem Solving (155-157); Lesson 8, Problem Solving (175-177); Lesson 9, Problem Solving (185-186); Lesson 11, Problem Solving (202-204); Lesson 12, Problem Solving (211-212); Lesson 13, Problem Solving (220-221); Lesson 14, Problem	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
		Solving (228-229); Lesson 15, Problem Solving (240-243) **Unit 3:** Lesson 14, Problem Solving (372-374)	
Measurement Focus: Equivalence within U.S. Customary and Metric Systems			
4.6 The student will			
a) estimate and measure weight/mass and describe the results in U.S. Customary and metric units as appropriate; and			
b) identify equivalent measurements between units within the U.S. Customary system (ounces, pounds, and tons) and between units within the metric system (grams and kilograms).	**Unit 9:** Lesson 4, Problem Solving (1001-1002); Lesson 9, Problem Solving (1036-1038); Lesson 10, Problem Solving (1045-1047)		
4.7 The student will			
a) estimate and measure length, and describe the result in both metric and U.S. Customary units; and	**Unit 9:** Lesson 7, Building Number Concepts (1020-1022)		
b) identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards; yards and miles) and between units within the metric system (millimeters and centimeters; centimeters and meters; and millimeters and meters).	**Unit 9:** Lesson 9, Problem Solving (1036-1038); Lesson 10, Problem Solving (1045-1047)		
4.8 The student will			
a) estimate and measure liquid volume and describe the results in U.S. Customary units; and			
b) identify equivalent measurements between units within the U.S. Customary system (cups, pints, quarts, and gallons).	**Unit 9:** Lesson 1, Problem Solving (976-978); Lesson 9, Problem Solving (1036-1038); Lesson 10, Problem Solving (1045-1047)		
4.9 The student will determine elapsed time in hours and minutes within a 12-hour period.			
Geometry Focus: Representations and Polygons			
4.10 The student will			
a) identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices; and		**Unit 3:** Lesson 1, Problem Solving (260-262) **Unit 5:** Lesson 1, Problem Solving (500-501); Lesson 2, Problem Solving (508-510)	
b) identify representations of lines that illustrate intersection, parallelism, and perpendicularity.		**Unit 5:** Lesson 3, Problem Solving (518-519)	
4.11 The student will			
a) investigate congruence of plane figures after geometric transformations, such as reflection, translation, and rotation, using mirrors, paper folding,		**Unit 4:** Lesson 8, Problem Solving (464-465); Lesson 10, Problem Solving (478-482) **Unit 6:** Lesson 8, Problem Solving (695-697	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
and tracing; and			
b) recognize the images of figures resulting from geometric transformations, such as translation, reflection, and rotation.		**Unit 6:** Lesson 8, Problem Solving (695-697)	
4.12 The student will			
a) define *polygon*; and			
b) identify polygons with 10 or fewer sides.			
Probability and Statistics Focus: Outcomes and Data			
4.13 The student will			
a) predict the likelihood of an outcome of a simple event; and			
b) represent probability as a number between 0 and 1, inclusive.			
4.14 The student will collect, organize, display, and interpret data from a variety of graphs.		**Unit 8:** Lesson 1, Problem Solving (866-867); Lesson 3, Problem Solving (882-883); Lesson 4, Problem Solving (889-892); Lesson 6, Problem Solving (908-910); Lesson 15, Problem Solving (983-987)	
Patterns, Functions, and Algebra Focus: Geometric Patterns, Equality, and Properties			
4.15 The student will recognize, create, and extend numerical and geometric patterns.			
4.16 The student will			
a) recognize and demonstrate the meaning of equality in an equation; and			
b) investigate and describe the associative property for addition and multiplication.			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Grade 5			
Number and Number Sense Focus: Prime and Composite Numbers and Rounding Decimals			
5.1 The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth.			
5.2 The student will			
a) recognize and name fractions in their equivalent decimal form and vice versa; and		**Unit 5:** Lesson 2, Building Number Concepts (504-507); Lesson 3, Building Number Concepts (513-517); Lesson 4, Building Number Concepts (522-524); Lesson 5, Building Number Concepts (529-533); Lesson 6, Building Number Concepts (538-540); Lesson 7, Building Number Concepts (545-549); Lesson 8, Building Number Concepts (554-557); Lesson 9, Building Number Concepts (563-568); Lesson 10, Building Number Concepts (573-576); Lesson 11, Building Number Concepts (581-586); Lesson 14, Building Number Concepts (606-611); Lesson 15, Building Number Concepts (616-620)	
b) compare and order fractions and decimals in a given set from least to greatest and greatest to least.		**Unit 5:** Lesson 11, Building Number Concepts (581-586); Lesson 15, Building Number Concepts (616-620)	
5.3 The student will			
a) identify and describe the characteristics of prime and composite numbers; and	**Unit 5:** Lesson 5, Building Number Concepts (546-550) **Unit 7:** Lesson 9, Building Number Concepts (806-809)	**Unit 9:** Lesson 9, Building Number Concepts (1062-1065); Lesson 9, Building Number Concepts (1062-1065)	
b) identify and describe the characteristics of even and odd numbers.	**Unit 6:** Lesson 7, Building Number Concepts (696-699) **Unit 7:** Lesson 9, Building Number Concepts (806-809)		
Computation and Estimation Focus: Multistep Applications and Order of Operations			
5.4 The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.	**Unit 4:** Lesson 4, Problem Solving (410-411); Lesson 6, Problem Solving (426-427); Lesson 9, Problem Solving (449-451); Lesson 11, Problem Solving (465-467); Lesson 12, Problem Solving (470-473); Lesson 13, Problem Solving (481-483); Lesson 14, Problem Solving (489-491); Lesson 15, Problem Solving (501-503)		
5.5 The student will			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
a) find the sum, difference, product, and quotient of two numbers expressed as decimals through thousandths (divisors with only one nonzero digit); and		**Unit 6:** Lesson 6, Building Number Concepts (678-681); Lesson 7, Building Number Concepts (687-689); Lesson 8, Building Number Concepts (692-694); Lesson 11, Building Number Concepts (716-719); Lesson 12, Building Number Concepts (725-727); Lesson 13, Building Number Concepts (733-735); Lesson 14, Building Number Concepts (740-744); Lesson 15, Building Number Concepts (747-751)	**Unit 1:** Lesson 11, Building Number Concepts (112-114); Lesson 12, Building Number Concepts (120-123); Lesson 13, Building Number Concepts (128-131); Lesson 14, Building Number Concepts (138-140); Lesson 15, Building Number Concepts (145-152)
b) create and solve single-step and multistep practical problems involving decimals.		**Unit 6:** Lesson 14, Building Number Concepts (740-744); Lesson 15, Building Number Concepts (747-751)	
5.6 The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.		**Unit 3:** Lesson 14, Problem Solving (372-374) **Unit 4:** Lesson 1, Building Number Concepts (397-401); Lesson 1, Problem Solving (402-403); Lesson 2, Building Number Concepts (406-411); Lesson 2, Problem Solving (412-413); Lesson 3, Building Number Concepts (416-422); Lesson 4, Building Number Concepts (428-431); Lesson 6, Problem Solving (449-450); Lesson 9, Problem Solving (471-472)	
5.7 The student will evaluate whole number numerical expressions, using the order of operations limited to parentheses, addition, subtraction, multiplication, and division.			
Measurement Focus: Perimeter, Area, Volume, and Equivalent Measures			
5.8 The student will			
a) find perimeter, area, and volume in standard units of measure;	**Unit 5:** Lesson 1, Problem Solving (519-520); Lesson 2, Problem Solving (523-527); Lesson 3, Problem Solving (533-535); Lesson 4, Problem Solving (542-543); Lesson 6, Problem Solving (558-561); Lesson 7, Problem Solving (568-569); Lesson 8, Problem Solving (575-576); Lesson 9, Problem Solving (579-583); Lesson 11, Problem Solving (598-599); Lesson 12, Problem Solving (606-608); Lesson 13, Problem Solving (614-615); Lesson 14, Problem Solving (621-622); Lesson 15, Problem Solving (629-632)	**Unit 6:** Lesson 1, Problem Solving (644-646); Lesson 2, Problem Solving (653-654); Lesson 4, Problem Solving (663-666); Lesson 5, Problem Solving (669-673); Lesson 6, Problem Solving (682-684); Lesson 15, Problem Solving (752-757)	
b) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation;	**Unit 5:** Lesson 6, Problem Solving (558-561); Lesson 7, Problem Solving (568-569); Lesson 8, Problem Solving (575-576); Lesson 9, Problem Solving (579-583); Lesson 11, Problem Solving (598-599); Lesson 13, Problem Solving (614-615); Lesson 14, Problem Solving (621-622); Lesson 15, Problem Solving (629-		**Unit 6:** Lesson 1, Problem Solving (651-653); Lesson 2, Problem Solving (656-661); Lesson 3, Problem Solving (671-675); Lesson 9, Problem Solving (717-724)

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
	632)		
c) identify equivalent measurements within the metric system;			
d) estimate and then measure to solve problems, using U.S. Customary and metric units; and			
e) choose an appropriate unit of measure for a given situation involving measurement using U.S. Customary and metric units.			
5.9 The student will identify and describe the diameter, radius, chord, and circumference of a circle.		**Unit 6:** Lesson 9, Problem Solving (700-704)	
5.10 The student will determine an amount of elapsed time in hours and minutes within a 24-hour period.			
5.11 The student will measure right, acute, obtuse, and straight angles.		**Unit 3:** Lesson 4, Problem Solving (283-285); Lesson 6, Building Number Concepts (297-301); Lesson 6, Problem Solving (302-304); Lesson 7, Problem Solving (311-314); Lesson 12, Building Number Concepts (350-354); Lesson 12, Problem Solving (355-357); Lesson 13, Problem Solving (365-366); Lesson 15, Problem Solving (382-385) **Unit 4:** Lesson 4, Problem Solving (432-435); Lesson 7, Problem Solving (457-459) **Unit 5:** Lesson 1, Problem Solving (500-501); Lesson 2, Problem Solving (508-510); Lesson 8, Problem Solving (558-560); Lesson 9, Problem Solving (569-570)	**Unit 7:** Lesson 1, Problem Solving (755-760); Lesson 2, Problem Solving (766-769); Lesson 4, Problem Solving (786-790); Lesson 5, Problem Solving (793-796); Lesson 6, Problem Solving (805-808); Lesson 7, Problem Solving (816-819); Lesson 8, Problem Solving (826-828); Lesson 9, Problem Solving (834-836); Lesson 10, Problem Solving (844-851)
Geometry Focus: Classification and Subdividing			
5.12 The student will classify			
a) angles as right, acute, obtuse, or straight; and		**Unit 3:** Lesson 8, Problem Solving (322-324) **Unit 4:** Lesson 8, Problem Solving (464-465); Lesson 10, Problem Solving (478-482) **Unit 5:** Lesson 1, Problem Solving (500-501); Lesson 2, Problem Solving (508-510)	
b) triangles as right, acute, obtuse, equilateral, scalene, or isosceles.		**Unit 5:** Lesson 1, Problem Solving (500-501); Lesson 2, Problem Solving (508-510); Lesson 15, Problem Solving (621-627)	
5.13 The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), will			
a) develop definitions of these plane figures; and		**Unit 5:** Lesson 3, Problem Solving (518-519); Lesson 4, Problem Solving (525-526); Lesson 8, Problem Solving (558-560); Lesson 9, Problem Solving (569-	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
		570); Lesson 12, Problem Solving (594-595); Lesson 13, Problem Solving (602-603); Lesson 14, Problem Solving (612-613); Lesson 15, Problem Solving (621-627)	
b) investigate and describe the results of combining and subdividing plane figures.		**Unit 5:** Lesson 4, Problem Solving (525-526); Lesson 6, Problem Solving (541-542); Lesson 7, Problem Solving (550-551); Lesson 12, Problem Solving (594-595); Lesson 13, Problem Solving (602-603); Lesson 14, Problem Solving (612-613); Lesson 15, Problem Solving (621-627)	
Probability and Statistics Focus: Outcomes and Measures of Center			
5.14 The student will make predictions and determine the probability of an outcome by constructing a sample space.		**Unit 7:** Lesson 2, Problem Solving (783-787); Lesson 3, Problem Solving (793-797); Lesson 4, Building Number Concepts (800-804); Lesson 7, Building Number Concepts (825-828)	
5.15 The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs.	**Unit 8:** Lesson 8, Problem Solving (900-902); Lesson 9, Problem Solving (908-910); Lesson 11, Problem Solving (923-925); Lesson 12, Problem Solving (932-933); Lesson 14, Problem Solving (946-947); Lesson 15, Problem Solving (955-958)		
5.16 The student will			
a) describe mean, median, and mode as measures of center;	**Unit 8:** Lesson 3, Problem Solving (858-861); Lesson 4, Problem Solving (869-871); Lesson 5, Problem Solving (874-876); Lesson 6, Problem Solving (885-887); Lesson 7, Problem Solving (893-894); Lesson 15, Problem Solving (955-958)		**Unit 1:** Lesson 1, Problem Solving (14-17); Lesson 3, Problem Solving (33-38); Lesson 6, Problem Solving (64-69); Lesson 7, Problem Solving (76-80)
b) describe mean as fair share;	**Unit 8:** Lesson 1, Problem Solving (842-844); Lesson 2, Problem Solving (850-851); Lesson 15, Problem Solving (955-958)		**Unit 1:** Lesson 1, Problem Solving (14-17); Lesson 3, Problem Solving (33-38); Lesson 6, Problem Solving (64-69); Lesson 7, Problem Solving (76-80)
c) find the mean, median, mode, and range of a set of data; and	**Unit 8:** Lesson 3, Problem Solving (858-861); Lesson 4, Problem Solving (869-871); Lesson 5, Problem Solving (874-876); Lesson 6, Problem Solving (885-887); Lesson 7, Problem Solving (893-894); Lesson 11, Problem Solving (923-925); Lesson 12, Problem Solving (932-933); Lesson 14, Problem Solving (946-947); Lesson 15, Problem Solving (955-958)		**Unit 1:** Lesson 1, Problem Solving (14-17); Lesson 3, Problem Solving (33-38); Lesson 6, Problem Solving (64-69); Lesson 7, Problem Solving (76-80); Lesson 15, Problem Solving (153-159)
d) describe the range of a set of data as a measure of variation.			**Unit 1:** Lesson 1, Problem Solving (14-17); Lesson 3, Problem Solving (33-38); Lesson 6, Problem Solving (64-69); Lesson 7, Problem Solving (76-80)
Patterns, Functions, and Algebra Focus: Equations and Properties			
5.17 The student will describe the relationship found in a number pattern and express the	**Unit 6:** Lesson 7, Building Number Concepts (696-699); Lesson 8, Building Number Concepts (706-		**Unit 2:** Lesson 1, Building Number Concepts (171-174); Lesson 1, Problem Solving (175-177); Lesson

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
relationship.	708); Lesson 9, Building Number Concepts (714-717); Lesson 10, Building Number Concepts (722-726); **Unit 7:** Lesson 1, Building Number Concepts (743-746); Lesson 10, Building Number Concepts (815-820)		2, Problem Solving (186-189); Lesson 3, Problem Solving (197-198)
5.18 The student will			
a) investigate and describe the concept of variable;			**Unit 2:** Lesson 1, Building Number Concepts (171-174); Lesson 15, Building Number Concepts (301-307)
b) write an open sentence to represent a given mathematical relationship, using a variable;			**Unit 2:** Lesson 1, Building Number Concepts (171-174); Lesson 2, Building Number Concepts (181-185); Lesson 6, Building Number Concepts (218-220); Lesson 15, Building Number Concepts (301-307)
c) model one-step linear equations in one variable, using addition and subtraction; and			
d) create a problem situation based on a given open sentence, using a single variable.			
5.19 The student will investigate and recognize the distributive property of multiplication over addition.			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Grade 6			
Number and Number Sense Focus: Relationships among Fractions, Decimals, and Percents			
6.1 The student will describe and compare data, using ratios, and will use appropriate notations, such as *a/b* , *a* to *b*, and *a*:*b*.			**Unit 2:** Lesson 3, Building Number Concepts (193-196); Lesson 3, Problem Solving (197-198); Lesson 13, Building Number Concepts (284-285) **Unit 3:** Lesson 1, Problem Solving (331-335); Lesson 2, Problem Solving (342-344); Lesson 4, Problem Solving (358-361); Lesson 6, Problem Solving (374-380); Lesson 8, Problem Solving (392-396); Lesson 10, Problem Solving (414-417); **Unit 4:** Lesson 1, Problem Solving (433-435); Lesson 2, Problem Solving (441-445); Lesson 3, Problem Solving (453-456); Lesson 4, Problem Solving (464-467)
6.2 The student will			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
a) investigate and describe fractions, decimals, and percents as ratios;			**Unit 4:** Lesson 1, Problem Solving (433-435); Lesson 2, Building Number Concepts (439-440)
b) identify a given fraction, decimal, or percent from a representation;		**Unit 7:** Lesson 1, Building Number Concepts (769-772); Lesson 2, Building Number Concepts (780-782); Lesson 3, Building Number Concepts (790-792); Lesson 5, Building Number Concepts (810-814); Lesson 10, Building Number Concepts (844-847)	
c) demonstrate equivalent relationships among fractions, decimals, and percents; and		**Unit 7:** Lesson 1, Building Number Concepts (769-772); Lesson 1, Problem Solving (773-777); Lesson 2, Building Number Concepts (780-782); Lesson 3, Building Number Concepts (790-792); Lesson 5, Building Number Concepts (810-814); Lesson 10, Building Number Concepts (844-847)	**Unit 1:** Lesson 7, Building Number Concepts (72-75)
d) compare and order fractions, decimals, and percents.		**Unit 7:** Lesson 3, Building Number Concepts (790-792); Lesson 5, Building Number Concepts (810-814); Lesson 10, Building Number Concepts (844-847)	
6.3 The student will			
a) identify and represent integers;		**Unit 8:** Lesson 1, Building Number Concepts (863-865); Lesson 2, Building Number Concepts (870-875); Lesson 3, Building Number Concepts (878-881); Lesson 3, Problem Solving (882-883); Lesson 4, Building Number Concepts (886-888); Lesson 15, Building Number Concepts (974-982)	
b) order and compare integers; and		**Unit 8:** Lesson 4, Building Number Concepts (886-888); Lesson 15, Building Number Concepts (974-982)	
c) identify and describe absolute value of integers.			
6.4 The student will demonstrate multiple representations of multiplication and division of fractions.			
6.5 The student will investigate and describe concepts of positive exponents and perfect squares.	**Unit 7:** Lesson 2, Building Number Concepts (752-755); Lesson 9, Building Number Concepts (806-809)		
Computation and Estimation Focus: Applications of Operations with Rational Numbers			
6.6 The student will			
a) multiply and divide fractions and mixed numbers; and		**Unit 3:** Lesson 1, Building Number Concepts (255-259); Lesson 2, Building Number Concepts (265-267); Lesson 3, Building Number Concepts (272-275); Lesson 3, Problem Solving (276-277); Lesson 4, Building Number Concepts (280-282); Lesson 5,	**Unit 1:** Lesson 3, Building Number Concepts (30-32); Lesson 4, Building Number Concepts (41-44); Lesson 5, Building Number Concepts (52-55); Lesson 6, Building Number Concepts (60-63); Lesson 15, Building Number Concepts (145-152)

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
		Building Number Concepts (288-292); Lesson 7, Building Number Concepts (307-310); Lesson 8, Building Number Concepts (317-321); Lesson 9, Building Number Concepts (326-330); Lesson 9, Problem Solving (331-332); Lesson 10, Building Number Concepts (335-337); Lesson 11, Building Number Concepts (342-345); Lesson 11, Problem Solving (346-347); Lesson 13, Building Number Concepts (360-364); Lesson 14, Building Number Concepts (369-371); Lesson 14, Problem Solving (372-374); Lesson 15, Building Number Concepts (376-381) **Unit 4:** Lesson 6, Building Number Concepts (445-448); Lesson 7, Building Number Concepts (453-456); Lesson 8, Building Number Concepts (462-463); Lesson 9, Problem Solving (471-472); Lesson 10, Building Number Concepts (475-477)	
b) estimate solutions and then solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions.		**Unit 3:** Lesson 3, Problem Solving (276-277); Lesson 9, Problem Solving (331-332); Lesson 11, Problem Solving (346-347); Lesson 14, Problem Solving (372-374) **Unit 4:** Lesson 9, Building Number Concepts (468-470); Lesson 9, Problem Solving (471-472); Lesson 10, Building Number Concepts (475-477)	
6.7 The student will solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of decimals.		**Unit 6:** Lesson 13, Problem Solving (736-737)	**Unit 1:** Lesson 14, Problem Solving (141-142)
6.8 The student will evaluate whole number numerical expressions, using the order of operations.			**Unit 5:** Lesson 1, Building Number Concepts (541-545); Lesson 2, Building Number Concepts (553-555); Lesson 3, Building Number Concepts (561-564); Lesson 4, Building Number Concepts (570-575); Lesson 6, Building Number Concepts (588-594); Lesson 7, Building Number Concepts (597-601); Lesson 8, Building Number Concepts (608-612); Lesson 10, Building Number Concepts (622-627)
Measurement Focus: Problem Solving with Area, Perimeter, Volume, and Surface Area			
6.9 The student will make ballpark comparisons between measurements in the U.S. Customary System of measurement and measurements in the metric system.			
6.10 The student will			
a) define π (pi) as the ratio of the circumference of			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
a circle to its diameter;			
b) solve practical problems involving circumference and area of a circle, given the diameter or radius;		**Unit 6:** Lesson 9, Problem Solving (700-704); Lesson 10, Problem Solving (707-711); Lesson 11, Problem Solving (720-722); Lesson 12, Problem Solving (728-730); Lesson 15, Problem Solving (752-757)	
c) solve practical problems involving area and perimeter; and			
d) describe and determine the volume and surface area of a rectangular prism.			**Unit 5:** Lesson 5, Problem Solving (578-583); Lesson 7, Problem Solving (602-605.); Lesson 9, Problem Solving (617-619); Lesson 10, Problem Solving (628-632) **Unit 6:** Lesson 1, Problem Solving (651-653); Lesson 2, Problem Solving (656-661); Lesson 3, Problem Solving (671-675); Lesson 9, Problem Solving (717-724)
Geometry Focus: Properties and Relationships			
6.11 The student will			
a) identify the coordinates of a point in a coordinate plane; and		**Unit 8:** Lesson 8, Problem Solving (923-925); Lesson 10, Problem Solving (934-939); Lesson 11, Problem Solving (944-950); Lesson 12, Problem Solving (953-956); Lesson 15, Problem Solving (983-987) **Unit 9:** Lesson 1, Problem Solving (1004-1006); Lesson 2, Problem Solving (1014-1016); Lesson 3, Problem Solving (1019-1023); Lesson 4, Problem Solving (1031-1032); Lesson 5, Problem Solving (1035-1038); Lesson 7, Problem Solving (1050-1053); Lesson 8, Problem Solving (1056-1059); Lesson 10, Problem Solving (1071-1076)	**Unit 9:** Lesson 1, Problem Solving (1013-1015); Lesson 2, Problem Solving (1022-1024); Lesson 3, Problem Solving (1032-1034)
b) graph ordered pairs in a coordinate plane.		**Unit 8:** Lesson 8, Problem Solving (923-925); Lesson 10, Problem Solving (934-939); Lesson 11, Problem Solving (944-950); Lesson 12, Problem Solving (953-956); Lesson 15, Problem Solving (983-987) **Unit 9:** Lesson 1, Problem Solving (1004-1006); Lesson 2, Problem Solving (1014-1016); Lesson 3, Problem Solving (1019-1023); Lesson 4, Problem Solving (1031-1032); Lesson 5, Problem Solving (1035-1038); Lesson 7, Problem Solving (1050-1053); Lesson 8, Problem Solving (1056-1059); Lesson 10, Problem Solving (1071-1076)	**Unit 9:** Lesson 1, Problem Solving (1013-1015); Lesson 2, Problem Solving (1022-1024); Lesson 3, Problem Solving (1032-1034)
6.12 The student will determine congruence of segments, angles, and polygons.			
6.13 The student will describe and identify		**Unit 3:** Lesson 12, Problem Solving (355-357);	**Unit 7:** Lesson 9, Problem Solving (834-836); Lesson

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
properties of quadrilaterals.		Lesson 13, Problem Solving (365-366); Lesson 15, Problem Solving (382-385) **Unit 5:** Lesson 7, Problem Solving (550-551); Lesson 8, Problem Solving (558-560); Lesson 9, Problem Solving (569-570)	10, Problem Solving (844-851)
Probability and Statistics Focus: Practical Applications of Statistics			
6.14 The student, given a problem situation, will			
a) construct circle graphs;			
b) draw conclusions and make predictions, using circle graphs; and			
c) compare and contrast graphs that present information from the same data set.			
6.15 The student will			
a) describe mean as balance point; and			
b) decide which measure of center is appropriate for a given purpose.			
6.16 The student will			
a) compare and contrast dependent and independent events; and			
b) determine probabilities for dependent and independent events.		**Unit 7:** Lesson 1, Problem Solving (773-777); Lesson 4, Problem Solving (805-807); Lesson 6, Problem Solving (819-822); Lesson 7, Problem Solving (829-831); Lesson 8, Problem Solving (834-836); Lesson 9, Problem Solving (839-841); Lesson 10, Problem Solving (848-851)	
Patterns, Functions, and Algebra Focus: Variable Equations and Properties			
6.17 The student will identify and extend geometric and arithmetic sequences..	**Unit 7:** Lesson 1, Building Number Concepts (743-746)		**Unit 2:** Lesson 2, Problem Solving (186-189); Lesson 3, Problem Solving (197-198) **Unit 4:** Lesson 1, Building Number Concepts (429-432); Lesson 3, Building Number Concepts (448-452); Lesson 4, Building Number Concepts (460-463); Lesson 5, Building Number Concepts (471-475); Lesson 6, Building Number Concepts (480-483); Lesson 7, Building Number Concepts (489-491); Lesson 8, Building Number Concepts (498-501); Lesson 9, Building Number Concepts (508-510); Lesson 10, Building Number Concepts (518-523)
6.18 The student will solve one-step linear equations in one variable involving whole number coefficients and positive rational solutions.			**Unit 2:** Lesson 1, Building Number Concepts (171-174); Lesson 4, Building Number Concepts (202-205); Lesson 5, Building Number Concepts (211-

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			213); Lesson 15, Building Number Concepts (301-307) **Unit 7:** Lesson 1, Building Number Concepts (751-754); Lesson 2, Building Number Concepts (763-765); Lesson 3, Building Number Concepts (772-777); Lesson 4, Building Number Concepts (780-785); Lesson 6, Building Number Concepts (801-804); Lesson 7, Building Number Concepts (811-815); Lesson 8, Building Number Concepts (822-825); Lesson 9, Building Number Concepts (831-833); Lesson 10, Building Number Concepts (839-843)
6.19 The student will investigate and recognize			
a) the identity properties for addition and multiplication;			**Unit 2:** Lesson 5, Building Number Concepts (211-213)
b) the multiplicative property of zero; and			
c) the inverse property for multiplication.			
6.20 The student will graph inequalities on a number line.			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Grade 7			
Number and Number Sense Focus: Proportional Reasoning			
7.1 The student will			
a) investigate and describe the concept of negative exponents for powers of ten;			
b) determine scientific notation for numbers greater than zero;			
c) compare and order fractions, decimals, percents, and numbers written in scientific notation;			
d) determine square roots; and			
e) identify and describe absolute value for rational numbers.		**Unit 9:** Lesson 5, Problem Solving (1035-1038)	
7.2 The student will describe and represent arithmetic and geometric sequences, using variable expressions.			
Computation and Estimation Focus: Integer Operations and Proportional Reasoning			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
7.3 The student will			
a) model addition, subtraction, multiplication, and division of integers; and		**Unit 8:** Lesson 2, Building Number Concepts (870-875); Lesson 5, Building Number Concepts (895-899); Lesson 6, Building Number Concepts (904-907); Lesson 7, Building Number Concepts (913-916); Lesson 8, Building Number Concepts (919-922); Lesson 9, Building Number Concepts (928-931); Lesson 13, Building Number Concepts (959-964); Lesson 14, Building Number Concepts (967-971); Lesson 15, Building Number Concepts (974-982) **Unit 9:** Lesson 1, Building Number Concepts (999-1003); Lesson 2, Building Number Concepts (1009-1013); Lesson 4, Building Number Concepts (1026-1030); Lesson 6, Building Number Concepts (1043-1047); Lesson 10, Building Number Concepts (1068-1070)	
b) add, subtract, multiply, and divide integers.		**Unit 8:** Lesson 5, Building Number Concepts (895-899); Lesson 6, Building Number Concepts (904-907); Lesson 7, Building Number Concepts (913-916); Lesson 8, Building Number Concepts (919-922); Lesson 9, Building Number Concepts (928-931); Lesson 13, Building Number Concepts (959-964); Lesson 14, Building Number Concepts (967-971); Lesson 15, Building Number Concepts (974-982) **Unit 9:** Lesson 1, Building Number Concepts (999-1003); Lesson 2, Building Number Concepts (1009-1013); Lesson 4, Building Number Concepts (1026-1030); Lesson 6, Building Number Concepts (1043-1047); Lesson 10, Building Number Concepts (1068-1070)	
7.4 The student will solve single-step and multistep practical problems, using proportional reasoning.			**Unit 2:** Lesson 4, Problem Solving (206-208); Lesson 6, Problem Solving (221-224); Lesson 7, Building Number Concepts (227-229); Lesson 7, Problem Solving (232-231); Lesson 8, Problem Solving (238-240); Lesson 9, Problem Solving (249-250); Lesson 10, Problem Solving (254-256); Lesson 11, Problem Solving (268-270); Lesson 12, Problem Solving (278-280); Lesson 13, Problem Solving (286-289); Lesson 14, Problem Solving (297-298); Lesson 15, Problem Solving (308-313) **Unit 3:** Lesson 1, Problem Solving (331-335); Lesson 2, Problem Solving (342-344); Lesson 4, Problem Solving (358-361); Lesson 6, Problem Solving (374-

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			380); Lesson 8, Problem Solving (392-396); Lesson 10, Problem Solving (414-417) **Unit 4:** Lesson 1, Problem Solving (433-435); Lesson 2, Building Number Concepts (439-440); Lesson 2, Problem Solving (441-445); Lesson 3, Problem Solving (453-456); Lesson 4, Problem Solving (464-467); Lesson 6, Problem Solving (484-486); Lesson 7, Problem Solving (492-495); Lesson 8, Problem Solving (502-505); Lesson 9, Problem Solving (511-514); Lesson 10, Problem Solving (524-529)
Measurement Focus: Proportional Reasoning			
7.5 The student will			
a) describe volume and surface area of cylinders;			**Unit 5:** Lesson 5, Problem Solving (578-583); Lesson 7, Problem Solving (602-605.); Lesson 9, Problem Solving (617-619); Lesson 10, Problem Solving (628-632)
b) solve practical problems involving the volume and surface area of rectangular prisms and cylinders; and			**Unit 6:** Lesson 3, Problem Solving (671-675); Lesson 9, Problem Solving (717-724)
c) describe how changing one measured attribute of a rectangular prism affects its volume and surface area.			
7.6 The student will determine whether plane figures—quadrilaterals and triangles—are similar and write proportions to express the relationships between corresponding sides of similar figures.	**Unit 6:** Lesson 7, Problem Solving (700-703); Lesson 8, Problem Solving (709-711); Lesson 9, Problem Solving (718-719); Lesson 10, Problem Solving (727-730)		**Unit 2:** Lesson 8, Problem Solving (238-240); Lesson 9, Problem Solving (249-250)
Geometry Focus: Relationships between Figures			
7.7 The student will compare and contrast the following quadrilaterals based on properties: parallelogram, rectangle, square, rhombus, and trapezoid.			
7.8 The student, given a polygon in the coordinate plane, will represent transformations (reflections, dilations, rotations, and translations) by graphing in the coordinate plane.	**Unit 3:** Lesson 12, Problem Solving (341-343)	**Unit 8:** Lesson 12, Problem Solving (953-956); Lesson 15, Problem Solving (983-987) **Unit 9:** Lesson 4, Problem Solving (1031-1032); Lesson 5, Problem Solving (1035-1038); Lesson 8, Problem Solving (1056-1059); Lesson 10, Problem Solving (1071-1076)	**Unit 9:** Lesson 2, Problem Solving (1022-1024); Lesson 3, Problem Solving (1032-1034)
Probability and Statistics Focus: Applications of Statistics and Probability			
7.9 The student will investigate and describe the difference between the experimental probability and theoretical probability of an event.		**Unit 7:** Lesson 7, Building Number Concepts (825-828); Lesson 7, Problem Solving (829-831); Lesson 8, Problem Solving (834-836); Lesson 9, Problem Solving (839-841); Lesson 10, Problem Solving (848-851)	

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
7.10 The student will determine the probability of compound events, using the Fundamental (Basic) Counting Principle.		**Unit 7:** Lesson 4, Building Number Concepts (800-804); Lesson 4, Problem Solving (805-807); Lesson 6, Problem Solving (819-822); Lesson 7, Building Number Concepts (825-828); Lesson 7, Problem Solving (829-831); Lesson 10, Problem Solving (848-851)	
7.11 The student, given data for a practical situation, will			
a) construct and analyze histograms; and			
b) compare and contrast histograms with other types of graphs presenting information from the same data set.			
Patterns, Functions, and Algebra Focus: Linear Equations			
7.12 The student will represent relationships with tables, graphs, rules, and words.			**Unit 4:** Lesson 1, Building Number Concepts (429-432); Lesson 3, Building Number Concepts (448-452); Lesson 4, Building Number Concepts (460-463); Lesson 5, Building Number Concepts (471-475); Lesson 6, Building Number Concepts (480-483); Lesson 7, Building Number Concepts (489-491); Lesson 8, Building Number Concepts (498-501); Lesson 9, Building Number Concepts (508-510); Lesson 10, Building Number Concepts (518-523)
7.13 The student will			
a) write verbal expressions as algebraic expressions and sentences as equations and vice versa; and			**Unit 2:** Lesson 5, Building Number Concepts (211-213); Lesson 6, Building Number Concepts (218-220); Lesson 11, Building Number Concepts (262-267); Lesson 12, Building Number Concepts (274-277); Lesson 14, Building Number Concepts (293-296); Lesson 15, Building Number Concepts (301-307) **Unit 6:** Lesson 4, Building Number Concepts (678-683); Lesson 5, Building Number Concepts (686-689); Lesson 7, Building Number Concepts (703-709); Lesson 10, Building Number Concepts (728-732)
b) evaluate algebraic expressions for given replacement values of the variables.			**Unit 2:** Lesson 4, Building Number Concepts (202-205); Lesson 5, Building Number Concepts (211-213); Lesson 6, Building Number Concepts (218-220) **Unit 6:** Lesson 1, Building Number Concepts (643-650); Lesson 3, Building Number Concepts (664-

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			670); Lesson 4, Building Number Concepts (678-683); Lesson 5, Building Number Concepts (686-689); Lesson 7, Building Number Concepts (703-709); Lesson 10, Building Number Concepts (728-732) **Unit 10** Lesson 7, Building Number Concepts (1211-1214)
7.14 The student will			
a) solve one- and two-step linear equations in one variable; and			**Unit 2:** Lesson 8, Building Number Concepts (234-237); Lesson 9, Building Number Concepts (244-248) **Unit 7:** Lesson 1, Building Number Concepts (751-754); Lesson 2, Building Number Concepts (763-765); Lesson 3, Building Number Concepts (772-777); Lesson 4, Building Number Concepts (780-785); Lesson 6, Building Number Concepts (801-804); Lesson 7, Building Number Concepts (811-815); Lesson 8, Building Number Concepts (822-825); Lesson 9, Building Number Concepts (831-833); Lesson 10, Building Number Concepts (839-843)
b) solve practical problems requiring the solution of one- and two-step linear equations.			**Unit 2:** Lesson 8, Building Number Concepts (234-237); Lesson 9, Building Number Concepts (244-248)
7.15 The student will			
a) solve one-step inequalities in one variable; and			**Unit 3:** Lesson 1, Building Number Concepts (325-330); Lesson 2, Building Number Concepts (339-341); Lesson 3, Building Number Concepts (348-351); Lesson 4, Building Number Concepts (355-357); Lesson 5, Building Number Concepts (365-369); Lesson 7, Building Number Concepts (383-386); Lesson 7, Problem Solving (387-389); Lesson 9, Building Number Concepts (400-402); Lesson 9, Problem Solving (403-404); Lesson 10, Building Number Concepts (408-413)
b) graph solutions to inequalities on the number line.			**Unit 3:** Lesson 1, Building Number Concepts (325-330); Lesson 2, Building Number Concepts (339-341); Lesson 3, Building Number Concepts (348-351); Lesson 4, Building Number Concepts (355-357); Lesson 5, Building Number Concepts (365-369); Lesson 7, Building Number Concepts (383-386); Lesson 7, Problem Solving (387-389); Lesson 9, Building Number Concepts (400-402); Lesson 9, Problem Solving (403-404); Lesson 10, Building

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			Number Concepts (408-413)
7.16 The student will apply the following properties of operations with real numbers:			
a) the commutative and associative properties for addition and multiplication;			**Unit 8:** Lesson 9, Building Number Concepts (938-941); Lesson 11, Building Number Concepts (954-956); Lesson 12, Building Number Concepts (962-964); Lesson 13, Building Number Concepts (970-974); Lesson 14, Building Number Concepts (981-983); Lesson 15, Building Number Concepts (989-993)
b) the distributive property;			**Unit 6:** Lesson 7, Building Number Concepts (703-709); Lesson 10, Building Number Concepts (728-732) **Unit 8:** Lesson 8, Building Number Concepts (928-932); Lesson 9, Building Number Concepts (938-941); Lesson 11, Building Number Concepts (954-956); Lesson 12, Building Number Concepts (962-964); Lesson 13, Building Number Concepts (970-974); Lesson 14, Building Number Concepts (981-983); Lesson 15, Building Number Concepts (989-993)
c) the additive and multiplicative identity properties;			**Unit 6:** Lesson 5, Building Number Concepts (686-689); Lesson 10, Building Number Concepts (728-732) **Unit 8:** Lesson 9, Building Number Concepts (938-941); Lesson 11, Building Number Concepts (954-956); Lesson 12, Building Number Concepts (962-964); Lesson 13, Building Number Concepts (970-974); Lesson 14, Building Number Concepts (981-983); Lesson 15, Building Number Concepts (989-993)
d) the additive and multiplicative inverse properties; and			**Unit 6:** Lesson 5, Building Number Concepts (686-689); Lesson 10, Building Number Concepts (728-732) **Unit 8:** Lesson 9, Building Number Concepts (938-941); Lesson 11, Building Number Concepts (954-956); Lesson 12, Building Number Concepts (962-964); Lesson 13, Building Number Concepts (970-974); Lesson 14, Building Number Concepts (981-983); Lesson 15, Building Number Concepts (989-993)
e) the multiplicative property of zero.			**Unit 6:** Lesson 5, Building Number Concepts (686-689); Lesson 10, Building Number Concepts (728-732) **Unit 8:** Lesson 9, Building Number Concepts (938-

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			941); Lesson 11, Building Number Concepts (954-956); Lesson 12, Building Number Concepts (962-964); Lesson 13, Building Number Concepts (970-974); Lesson 14, Building Number Concepts (981-983); Lesson 15, Building Number Concepts (989-993)

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Grade 8			
Number and Number Sense Focus: Relationships within the Real Number System			
8.1 The student will			
a) simplify numerical expressions involving positive exponents, using rational numbers, order of operations, and properties of operations with real numbers; and	**Unit 7:** Lesson 3, Building Number Concepts (760-762); Lesson 4, Building Number Concepts (767-769)		
b) compare and order decimals, fractions, percents, and numbers written in scientific notation.			
8.2 The student will describe orally and in writing the relationships between the subsets of the real number system.			
Computation and Estimation Focus: Practical Applications of Operations with Real Numbers			
8.3 The student will			
a) solve practical problems involving rational numbers, percents, ratios, and proportions; and			**Unit 4:** Lesson 6, Problem Solving (484-486); Lesson 7, Problem Solving (492-495); Lesson 8, Problem Solving (502-505); Lesson 9, Problem Solving (511-514); Lesson 10, Problem Solving (524-529)
b) determine the percent increase or decrease for a given situation.			**Unit 4:** Lesson 6, Problem Solving (484-486); Lesson 7, Problem Solving (492-495); Lesson 8, Problem Solving (502-505); Lesson 9, Problem Solving (511-514); Lesson 10, Problem Solving (524-529)
8.4 The student will apply the order of operations to evaluate algebraic expressions for given replacement values of the variables.			**Unit 5:** Lesson 3, Building Number Concepts (561-564); Lesson 4, Building Number Concepts (570-575); Lesson 6, Building Number Concepts (588-594); Lesson 7, Building Number Concepts (597-601); Lesson 8, Building Number Concepts (608-612); Lesson 10, Building Number Concepts (622-627)

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
8.5 The student will			
a) determine whether a given number is a perfect square; and			**Unit 10:** Lesson 5, Building Number Concepts (1195-1198); Lesson 9, Building Number Concepts (1229-1232); Lesson 10, Building Number Concepts (1235-1240)
b) find the two consecutive whole numbers between which a square root lies.			**Unit 10:** Lesson 5, Building Number Concepts (1195-1198); Lesson 9, Building Number Concepts (1229-1232); Lesson 10, Building Number Concepts (1235-1240)
Measurement Focus: Problem Solving			
8.6 The student will			
a) verify by measuring and describe the relationships among vertical angles, adjacent angles, supplementary angles, and complementary angles; and		**Unit 3:** Lesson 8, Problem Solving (322-324); Lesson 13, Problem Solving (365-366); Lesson 15, Problem Solving (382-385)	**Unit 7:** Lesson 2, Problem Solving (766-769); Lesson 4, Problem Solving (786-790); Lesson 5, Problem Solving (793-796); Lesson 6, Problem Solving (805-808); Lesson 7, Problem Solving (816-819); Lesson 8, Problem Solving (826-828); Lesson 9, Problem Solving (834-836); Lesson 10, Problem Solving (844-851)
b) measure angles of less than 360°.		**Unit 3:** Lesson 7, Problem Solving (311-314); Lesson 8, Problem Solving (322-324); Lesson 13, Problem Solving (365-366); Lesson 15, Problem Solving (382-385)	**Unit 7:** Lesson 1, Problem Solving (755-760); Lesson 2, Problem Solving (766-769); Lesson 4, Problem Solving (786-790); Lesson 5, Problem Solving (793-796); Lesson 6, Problem Solving (805-808); Lesson 7, Problem Solving (816-819); Lesson 8, Problem Solving (826-828); Lesson 9, Problem Solving (834-836); Lesson 10, Problem Solving (844-851)
8.7 The student will			
a) investigate and solve practical problems involving volume and surface area of prisms, cylinders, cones, and pyramids; and			**Unit 5:** Lesson 5, Problem Solving (578-583); Lesson 7, Problem Solving (602-605.); Lesson 9, Problem Solving (617-619); Lesson 10, Problem Solving (628-632)
b) describe how changing one measured attribute of a figure affects the volume and surface area.			
Geometry Focus: Problem Solving with 2- and 3-Dimensional Figures			
8.8 The student will			
a) apply transformations to plane figures; and		**Unit 5:** Lesson 6, Problem Solving (541-542)	
b) identify applications of transformations.			
8.9 The student will construct a three-dimensional model, given the top or bottom, side, and front views.			
8.10 The student will			
a) verify the Pythagorean Theorem; and			**Unit 10:** Lesson 1, Building Number Concepts

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			(1159-1167); Lesson 2, Building Number Concepts (1170-1175); Lesson 3, Building Number Concepts (1178-1185); Lesson 10, Building Number Concepts (1235-1240)
b) apply the Pythagorean Theorem.			**Unit 10:** Lesson 1, Building Number Concepts (1159-1167); Lesson 2, Building Number Concepts (1170-1175); Lesson 3, Building Number Concepts (1178-1185)
8.11 The student will solve practical area and perimeter problems involving composite plane figures.			
Probability and Statistics Focus: Statistical Analysis of Graphs and Problem Situations			
8.12 The student will determine the probability of independent and dependent events with and without replacement.		**Unit 7:** Lesson 1, Problem Solving (773-777)	
8.13 The student will			
a) make comparisons, predictions, and inferences, using information displayed in graphs; and			
b) construct and analyze scatterplots.			**Unit 1:** Lesson 9, Problem Solving (98-101); Lesson 11, Problem Solving (115-117); Lesson 12, Problem Solving (124-125); Lesson 13, Problem Solving (132-135); Lesson 15, Problem Solving (153-159)
Patterns, Functions, and Algebra Focus: Linear Relationships			
8.14 The student will make connections between any two representations (tables, graphs, words, and rules) of a given relationship.			**Unit 9:** Lesson 3, Building Number Concepts (1028-1031); Lesson 4, Building Number Concepts (1038-1041); Lesson 5, Building Number Concepts (1044-1048); Lesson 6, Building Number Concepts (1053-1055); Lesson 6, Problem Solving (1056-1059); Lesson 7, Building Number Concepts (1062-1065); Lesson 7, Problem Solving (1066-1067); Lesson 8, Building Number Concepts (1071-1074); Lesson 8, Problem Solving (1075-1076); Lesson 9, Building Number Concepts (1079-1082); Lesson 9, Problem Solving (1083-1085); Lesson 10, Building Number Concepts (1088-1093); Lesson 11, Building Number Concepts (1098-1100); Lesson 11, Problem Solving (1101-1105); Lesson 12, Building Number Concepts (1109-1111); Lesson 12, Problem Solving (1112-1116); Lesson 13, Building Number Concepts (1119-1120); Lesson 13, Problem Solving (1121-1123); Lesson 14, Building Number Concepts (1127-1132);

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			Lesson 14, Problem Solving (1133-1134); Lesson 15, Building Number Concepts (1137-1141); Lesson 15, Problem Solving (1142-1148)
8.15 The student will			
a) solve multistep linear equations in one variable with the variable on one and two sides of the equation;			**Unit 7:** Lesson 7, Building Number Concepts (811-815); Lesson 8, Building Number Concepts (822-825); Lesson 9, Building Number Concepts (831-833); Lesson 10, Building Number Concepts (839-843) **Unit 8:** Lesson 1, Building Number Concepts (863-868); Lesson 1, Problem Solving (869-871); Lesson 2, Building Number Concepts (874-877); Lesson 2, Problem Solving (878-800); Lesson 3, Building Number Concepts (883-886); Lesson 3, Problem Solving (887-891); Lesson 4, Problem Solving (894-898); Lesson 5, Problem Solving (901-904); Lesson 6, Building Number Concepts (909-911); Lesson 6, Problem Solving (912-915); Lesson 7, Building Number Concepts (918-920); Lesson 7, Problem Solving (921-925); Lesson 8, Building Number Concepts (928-932); Lesson 8, Problem Solving (933-935); Lesson 9, Building Number Concepts (938-941); Lesson 9, Problem Solving (942-943); Lesson 10, Problem Solving (946-949); Lesson 11, Building Number Concepts (954-956); Lesson 11, Problem Solving (957-959); Lesson 12, Building Number Concepts (962-964); Lesson 12, Problem Solving (965-967); Lesson 13, Building Number Concepts (970-974); Lesson 13, Problem Solving (975-978); Lesson 14, Building Number Concepts (981-983); Lesson 14, Problem Solving (984-986); Lesson 15, Building Number Concepts (989-993); Lesson 15, Problem Solving (994-997) **Unit 10:** Lesson 8, Building Number Concepts (1220-1222)
b) solve two-step linear inequalities and graph the results on a number line; and			
c) identify properties of operations used to solve an equation.			**Unit 7:** Lesson 7, Building Number Concepts (811-815); Lesson 8, Building Number Concepts (822-825); Lesson 9, Building Number Concepts (831-833); Lesson 10, Building Number Concepts (839-843) **Unit 8:** Lesson 2, Building Number Concepts (874-877); Lesson 3, Building Number Concepts (883-886); Lesson 6, Building Number Concepts (909-

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			911); Lesson 7, Building Number Concepts (918-920); Lesson 8, Building Number Concepts (928-932); Lesson 9, Building Number Concepts (938-941); Lesson 11, Building Number Concepts (954-956); Lesson 12, Building Number Concepts (962-964); Lesson 13, Building Number Concepts (970-974); Lesson 14, Building Number Concepts (981-983); Building Number Concepts (989-993)
8.16 The student will graph a linear equation in two variables.			**Unit 9:** Lesson 6, Problem Solving (1056-1059); Lesson 7, Problem Solving (1066-1067); Lesson 8, Problem Solving (1075-1076); Lesson 9, Problem Solving (1083-1085); Lesson 11, Problem Solving (1101-1105); Lesson 12, Problem Solving (1112-1116); Lesson 13, Problem Solving (1121-1123); Lesson 14, Problem Solving (1133-1134); Lesson 15, Problem Solving (1142-1148)

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Algebra			
Expressions and Operations			
A.1 The student will represent verbal quantitative situations algebraically and evaluate these expressions for given replacement values of the variables			
A.2 The student will perform operations on polynomials, including			
a) applying the laws of exponents to perform operations on expressions;			**Unit 5:** Lesson 3, Building Number Concepts (561-564); Lesson 4, Building Number Concepts (570-575)
b) adding, subtracting, multiplying, and dividing polynomials; and			
c) factoring completely first- and second-degree binomials and trinomials in one or two variables. Graphing calculators will be used as a tool for factoring and for confirming algebraic factorizations.			
A3 The student will express the square roots and cube roots of whole numbers and the square root of a monomial algebraic expression in simplest radical form.			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
Equations and Inequalities			
A.4 The student will solve multistep linear and quadratic equations in two variables, including			
a) solving literal equations (formulas) for a given variable;			
b) justifying steps used in simplifying expressions and solving equations, using field properties and axioms of equality that are valid for the set of real numbers and its subsets;			**Unit 10:** Lesson 8, Building Number Concepts (1220-1222)
c) solving quadratic equations algebraically and graphically;			**Unit 10:** Lesson 4, Problem Solving (1188-1192); Lesson 6, Problem Solving (1203-1208); Lesson 7, Problem Solving (1215-1217); Lesson 8, Problem Solving (1223-1226); Lesson 10, Problem Solving (1241-1247)
d) solving multistep linear equations algebraically and graphically;			
e) solving systems of two linear equations in two variables algebraically and graphically; and			**Unit 9:** Lesson 13, Problem Solving (1121-1123); Lesson 14, Problem Solving (1133-1134); Lesson 15, Problem Solving (1142-1148)
f) solving real-world problems involving equations and systems of equations. Graphing calculators will be used both as a primary tool in solving problems and to verify algebraic solutions.			**Unit 8:** Lesson 2, Problem Solving (878-800); Lesson 3, Problem Solving (887-891); Lesson 4, Problem Solving (894-898); Lesson 5, Problem Solving (901-904); Lesson 6, Problem Solving (912-915); Lesson 7, Problem Solving (921-925); Lesson 8, Problem Solving (933-935); Lesson 9, Problem Solving (942-943); Lesson 10, Problem Solving (946-949); Lesson 11, Problem Solving (957-959); Lesson 12, Problem Solving (965-967); Lesson 13, Problem Solving (975-978); Lesson 14, Problem Solving (984-986); Lesson 1, Problem Solving (994-997) **Unit 9:** Lesson 12, Problem Solving (1112-1116); Lesson 13, Problem Solving (1121-1123); Lesson 14, Problem Solving (1133-1134); Lesson 15, Problem Solving (1142-1148)
A.5 The student will solve multistep linear inequalities in two variables, including			
a) solving multistep linear inequalities algebraically and graphically;			
b) justifying steps used in solving inequalities, using axioms of inequality and properties of order that are valid for the set of real numbers and its subsets;			
c) solving real-world problems involving inequalities; and			
d) solving systems of inequalities.			

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
A.6 The student will graph linear equations and linear inequalities in two variables, including			
a) determining the slope of a line when given an equation of the line, the graph of the line, or two points on the line. Slope will be described as rate of change and will be positive, negative, zero, or undefined; and			**Unit 9:** Lesson 7, Building Number Concepts (1062-1065); Lesson 7, Problem Solving (1066-1067); Lesson 8, Building Number Concepts (1071-1074); Lesson 8, Problem Solving (1075-1076); Lesson 9, Building Number Concepts (1079-1082); Lesson 9, Problem Solving (1083-1085); Lesson 10, Building Number Concepts (1088-1093); Lesson 11, Building Number Concepts (1098-1100); Lesson 11, Problem Solving (1101-1105); Lesson 12, Building Number Concepts (1109-1111); Lesson 13, Building Number Concepts (1119-1120); Lesson 14, Building Number Concepts (1127-1132); Lesson 15, Building Number Concepts (1137-1141)
b) writing the equation of a line when given the graph of the line, two points on the line, or the slope and a point on the line.			**Unit 9:** Lesson 7, Problem Solving (1066-1067); Lesson 8, Problem Solving (1075-1076); Lesson 9, Problem Solving (1083-1085); Lesson 11, Building Number Concepts (1098-1100); Lesson 11, Problem Solving (1101-1105); Lesson 12, Building Number Concepts (1109-1111); Lesson 13, Building Number Concepts (1119-1120); Lesson 14, Building Number Concepts (1127-1132); Lesson 15, Building Number Concepts (1137-1141)
Functions			
A.7 The student will investigate and analyze function (linear and quadratic) families and their characteristics both algebraically and graphically, including			**Unit 10:** Lesson 4, Problem Solving (1188-1192); Lesson 6, Problem Solving (1203-1208); Lesson 7, Problem Solving (1215-1217); Lesson 8, Problem Solving (1223-1226); Lesson 10, Problem Solving (1241-1247)
a) determining whether a relation is a function;			**Unit 9:** Lesson 1, Building Number Concepts (1009-1012); Lesson 2, Building Number Concepts (1019-1021); Lesson 3, Building Number Concepts (1028-1031); Lesson 4, Building Number Concepts (1038-1041); Lesson 5, Building Number Concepts (1044-1048); Lesson 6, Building Number Concepts (1053-1055); Lesson 7, Building Number Concepts (1062-1065); Lesson 8, Building Number Concepts (1071-1074); Lesson 9, Building Number Concepts (1079-1082); Lesson 10, Building Number Concepts (1088-1093); Lesson 11, Building Number Concepts (1098-1100); Lesson 12, Building Number Concepts (1109-1111); Lesson 13, Building Number Concepts (1119-1120); Lesson 14, Building Number Concepts (1127-1132); Lesson 15, Building Number Concepts

Virginia Standards of Learning	Lesson Subsection (and Page Number) in *TransMath 1* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 2* Where Standard is Addressed	Lesson Subsection (and Page Number) in *TransMath 3* Where Standard is Addressed
			(1137-1141) **Unit 10:** Lesson 4, Problem Solving (1188-1192); Lesson 6, Problem Solving (1203-1208); Lesson 7, Problem Solving (1215-1217); Lesson 8, Problem Solving (1223-1226); Lesson 10, Problem Solving (1241-1247)
b) domain and range;			**Unit 10:** Lesson 4, Problem Solving (1188-1192); Lesson 6, Problem Solving (1203-1208); Lesson 7, Problem Solving (1215-1217); Lesson 8, Problem Solving (1223-1226); Lesson 10, Problem Solving (1241-1247)
c) zeros of a function;			
d) *x*- and *y*-intercepts;			**Unit 9:** Lesson 10, Building Number Concepts (1088-1093)
e) finding the values of a function for elements in its domain; and			
f) making connections between and among multiple representations of functions including concrete, verbal, numeric, graphic, and algebraic.			**Unit 9:** Lesson 7, Problem Solving (1066-1067); Lesson 8, Problem Solving (1075-1076); Lesson 9, Problem Solving (1083-1085); Lesson 11, Problem Solving (1101-1105); Lesson 12, Problem Solving (1112-1116); Lesson 13, Problem Solving (1121-1123); Lesson 14, Problem Solving (1133-1134); Lesson 15, Problem Solving (1142-1148)
A.8 The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.			
Statistics			
A.9 The student, given a set of data, will interpret variation in real-world contexts and calculate and interpret mean absolute deviation, standard deviation, and z-scores.			**Unit 1:** Lesson 4, Problem Solving (45-49)
A.10 The student will compare and contrast multiple univariate data sets, using box-and-whisker plots.			**Unit 1:** Lesson 6, Problem Solving (64-69); Lesson 7, Problem Solving (76-80); Lesson 8, Problem Solving (88-92); Lesson 15, Problem Solving (153-159)
A.11 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve real-world problems, using mathematical models. Mathematical models will include linear and quadratic functions.			