A2T Unit 5 - Inverse, Radical Functions & Relations

HOMEWORK POLICY: In order to receive a 3, you must follow the procedure listed on all previous syllabi!

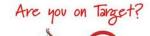
This unit requires practice and more practice! In order to guarantee your success, I suggest that you do the Mathspace assignments in the areas where YOU need more practice. YOU are in charge of your grades! The homework grade is a reflection of the assigned worksheets, which are important for your overall understanding.

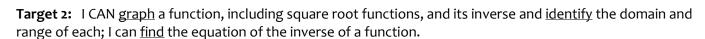
Please post any questions or AHA moments throughout this unit to the UNIT 5 PADLET on my website.

DATE	DAILY LEARNING TARGETS & OBJECTIVES	INDEPENDENT PRACTICE (HOMEWORK)	GRADE
Tue/Wed,	Test on Unit 4	Gas Consumption Problem	
Jan. 21/22		due on or before Wed/Thu, Jan. 23/24	
Thu/Fri,	CITYWIDE ALGEBRA 2 MID-ASSESSMENT	Day oo Introduction to Composite Functions	
Jan. 23/24	Fri. Jan 24 – Last day of the 2 nd Quarter		_
Day oo	Mon. Jan. 27 – NO SCHOOL: Teacher workday		3
Tue/Wed,	Operations with Functions	Day 01 Functions I & II	
Jan. 28/29	Introduce PBL Task: "Which is the Best Deal?"		_
Day 01	- IB Rubric B & D: Due at the end of the unit!		3
Thu/Fri,	Graphing Square Root Functions	Day 02 Graphing Square Root Functions	
Jan. 30/31	Rational Exponents	– No calculator!	_
Day 02		Day 02 Introduction to Inverse Functions	3
Mon/Tue,	Inverse Functions and Relations (Walkabout)	Day 03 Inverse Functions and Relations	
Feb. 3/4	Assign Valentine's Day Card RAFT	Make a Power Card if you haven't already	_
Day 03	(25 point Minor Assessment due by Feb 8/11)		3
Wed/Thu,	nth Roots	Day 04 Radicals & Rational Exponents Practice	
Feb. 5/6	Cav Connection Tue., Feb. 5 – Abbr. Schedule		_
Day 04	Cuv Connection rue., reb. 3 - Abbi. Schedule		3
Fri/Mon,	Operations with Radical Expressions	Day 05 Operations with Radical Expressions	
Feb. 7/10			-
Day 05			3
Tue/Wed,	Solving Radical Equations	Day o6 Solving Radical Equations Worksheet	
Feb. 11/12			_
Day o6	Tuesday, Feb. 11: Report Cards Issued		3
Thu/Fri,	Review Unit 5	Day 07 Unit 5 Test Review Worksheet	
Feb. 13/14	Valentine's Day Speed Dating		-
Day 07	Monday, Feb. 17: NO SCHOOL – President's Day		3
Tue/Wed,	Test on Unit 5		
Feb. 18/19	HAPPY CONTRACTOR		
Day 08	Vallantiner 3	TOTAL DOINTS	
	Marie 200	TOTAL POINTS	24
			- 4

Unit 5 Learning Targets:

Target 1: I CAN <u>apply</u> operations with functions, <u>evaluate</u> compositions of functions, <u>verify</u> inverses using composition of functions, and <u>apply</u> composition of functions to real world applications.





Target 3: I CAN <u>simplify</u> expressions containing rational exponents and radicals of a variety of indices.

Target 4: I CAN <u>solve</u> equations containing rational exponents or radicals.

GUIDING QUESTION/GLOBAL CONTEXT: IDENTITIES & RELATIONSHIPS



Does every action have an inverse action?

GUIDING IDEA:

"The essence of mathematics is not to make simple things complicated, but to make complicated things simple."

UNIT 5 ENDURING UNDERSTANDINGS/BIG IDEAS

- 1. The domain of the inverse is the range of its original relation!
- 2. An exponent is the number of times you must multiply its base by itself!

UNIT 5 ESSENTIAL QUESTIONS:

- 1. What is an inverse? What is an identity? How are they related? Why are these definitions so important in THIS unit?
- **2.** Explain why a person would perform a composition of functions. Include a real-world example that you could solve by using a composition of functions.

SOL Objectives (2009):

All.1 The student will

b) add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents; and

AII.3 The student will solve

- c) equations containing rational algebraic expressions; and
- d) equations containing radical expressions.
- AII.6 For absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic functions, the student will
 - a) recognize the general shape of function families; and
 - b) use knowledge of transformations to convert between equations and the corresponding graphs of functions.
- AII.7 The student will investigate and analyze linear, quadratic, absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic function families algebraically and graphically. Key concepts include
 - a) domain, range, and continuity;
 - b) intervals in which a function is increasing or decreasing;
 - c) extrema;
 - d) zeros;
 - e) intercepts;
 - f) values of a function for elements in its domain;
 - g) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs;
 - h) end behavior;
 - i) vertical and horizontal asymptotes;
 - j) inverse of a function; and
 - k) composition of functions algebraically and graphically.

PREREQUISITE TARGETS

- I CAN simplify a radical and rationalize a denominator
- I CAN graph and translate any of the 10 function family members
- I CAN solve a formula for a variable
- I CAN define and apply the definitions of a relation, function, input, output, domain, range, interval notation, inverse, identity, THE IDENTITY FUNCTION, and use function notation when appropriate.