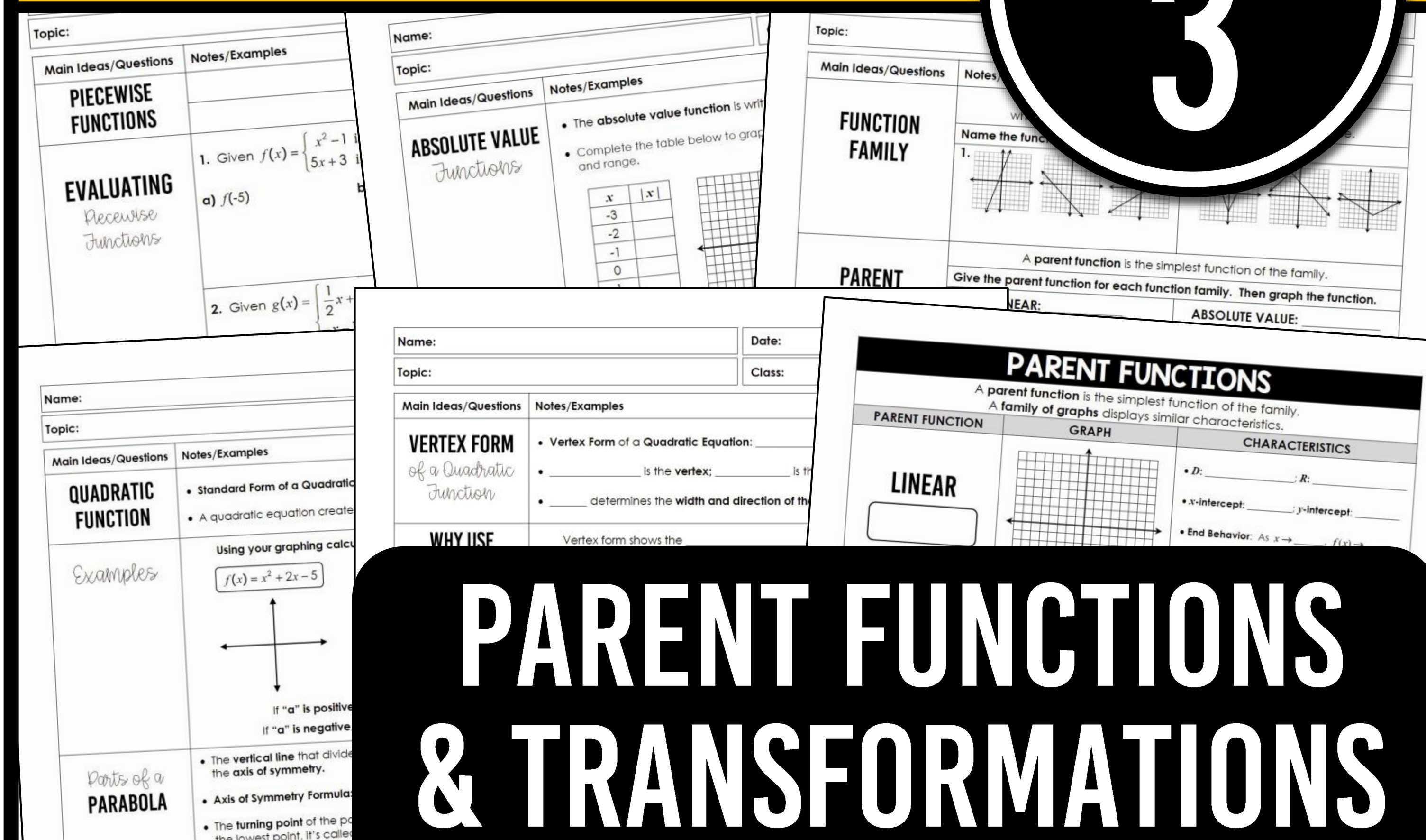
ALGEBRA 2

Unit 3



PARENT FUNCTIONS & TRANSFORMATIONS

NOTES • HOMEWORK • QUIZZES • TEST

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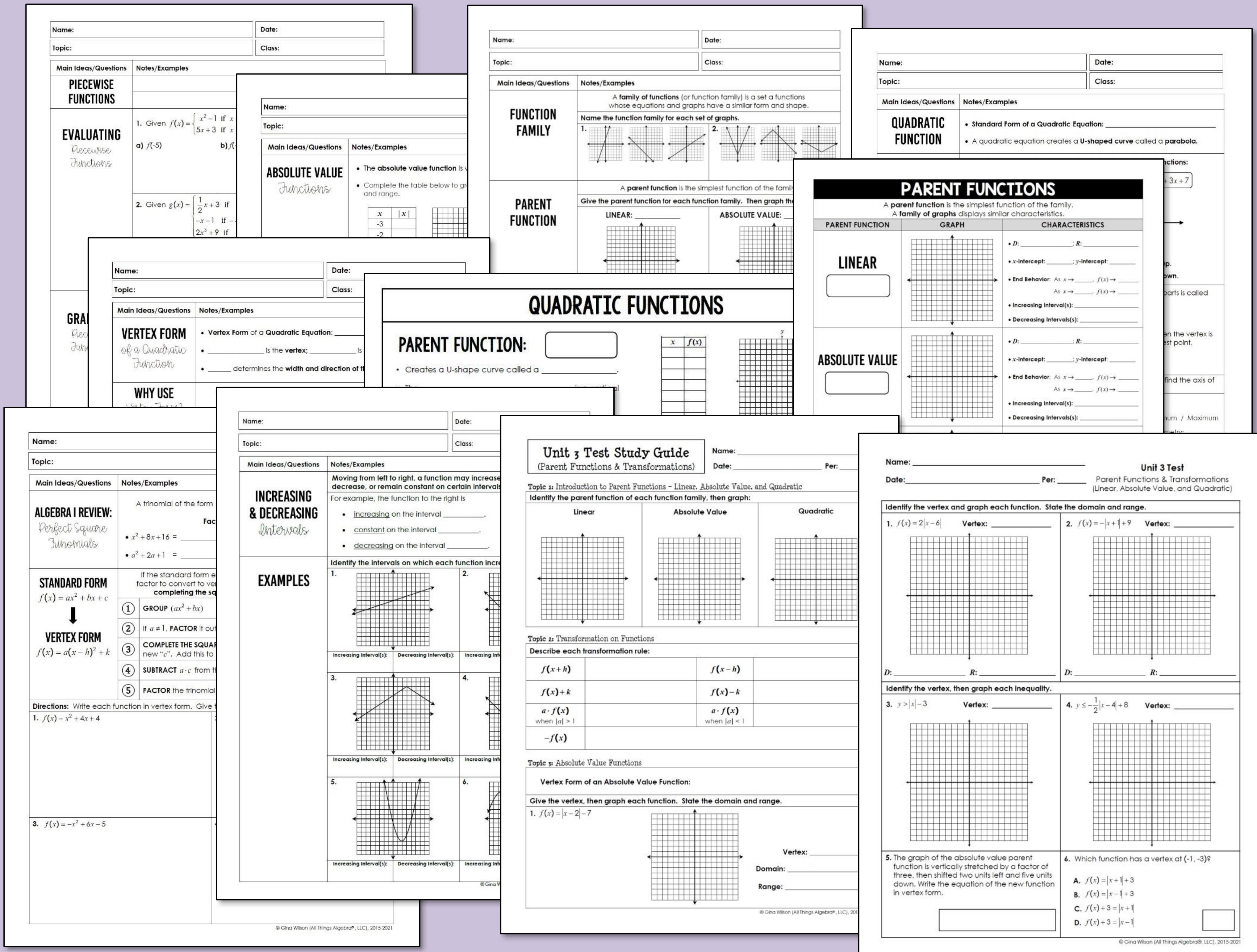
Unit 3 – Parent Functions & Transformations: Sample Unit Outline

	TOPIC	HOMEWORK
DAY 1	Piecewise Functions	HW #1
DAY 2	Absolute Value Functions & Inequalities (Graphing by Table)	HW #2
DAY 3	**Quiz 3-1**	None
DAY 4	Parent Functions & Transformations	HW #3
DAY 5	Vertex Form of an Absolute Value Function	HW #4
DAY 6	**Quiz 3-2**	None
DAY 7	Standard Form of Quadratic Functions & Inequalities	HW #5
DAY 8	Vertex Form of Quadratic Functions & Inequalities	HW #6
DAY 9	Converting Standard Form to Vertex Form: Completing the Square	HW #7
DAY 10	**Quiz 3-3**	None
DAY 11	End Behavior & Increasing/Decreasing Intervals (Linear, Absolute Value, and Quadratic Functions)	HW #8
DAY 12	Functions Review: Linear, Absolute Value, & Quadratic Identify Parent Function, Domain, Range, Roots, End Behavior, etc.	HW #9
DAY 13	*Greatest Integer Function	HW #10
DAY 14	Unit 3 Review	Study for Test
DAY 15	Unit 3 Test	None

Notes:

- Piecewise Functions (Day 1) includes linear functions only. Piecewise functions that include absolute and quadratic functions are integrated throughout the later lessons.
- A Parent Functions Chart is included on Day 12 that includes linear, absolute value, quadratic, cubic, square root, cube root, reciprocal, exponential, and logarithmic. This chart was meant to be introduced in this unit with linear, absolute value, and quadratic, then used throughout future units.
- Greatest Integer Function (Day 13) is included as a bonus lesson and does not appear on the quizzes, study guide, or test.


PIECEWISE FUNCTIONS
EVALUATING Piecewise Functions
ABSOLUTE VALUE Functions
FUNCTION FAMILY
PARENT FUNCTION
QUADRATIC FUNCTION
PARENT FUNCTIONS
A parent function is the simplest function of the family.
A family of graphs displays similar characteristics.
PARENT FUNCTION
GRAPH
CHARACTERISTICS
LINEAR
ABSOLUTE VALUE
VERTEX FORM of a Quadratic Function
WHY USE
QUADRATIC FUNCTIONS
PARENT FUNCTION:
Creates a U-shape curve called a
ALGEBRA I REVIEW: Perfect Square Trinomials
STANDARD FORM
VERTEX FORM
INCREASING & DECREASING Intervals
EXAMPLES
Unit 3 Test Study Guide
(Parent Functions & Transformations)
Topic 1: Introduction to Parent Functions – Linear, Absolute Value, and Quadratic
Identify the parent function of each function family, then graph:
Linear
Absolute Value
Quadratic
Topic 2: Transformation on Functions
Describe each transformation rule:
Topic 3: Absolute Value Functions
Vertex Form of an Absolute Value Function:
Give the vertex, then graph each function. State the domain and range.
Unit 3 Test
Parent Functions & Transformations
(Linear, Absolute Value, and Quadratic)
Identify the vertex and graph each function. State the domain and range.
Identify the vertex, then graph each inequality.
5. The graph of the absolute value parent function is vertically stretched by a factor of three, then shifted two units left and five units down. Write the equation of the new function in vertex form.
6. Which function has a vertex at (-1, -3)?
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