

## Algebra 1 Unit 9: Function Transformations

**Universal Essential Question: Why is resilience an influence on success?**

**Essential Question: How does imbalance require resilience?**

<b>Learning Objectives</b>  At the completion of this unit, I should ...	<b>Self-Rating, evidence from my INB and practice papers</b>  0 – I have no idea. 1 – I cannot solve problems yet but I am beginning to understand the strategies 2 – I can solve problems but do not yet know why the math works. 3 – I understand why the math works and can solve most problems but still make mistakes. 4 – I understand why the math works and can consistently and accurately solve problems.		
<b>Know</b> – Graphs of the parent functions for: $y = x$ ; $y = x^2$ ; $y =  x $ – The definition of absolute value – Vocabulary of special linear functions			
<b>Be able to</b> – Identify features of a graph: vertex, line of symmetry, x-intercepts/zeros, maximum/minimum, domain and range – Graph functions by identifying the parent functions and use transformations to graph functions in the form $y = a f(x - h) + k$ – Identify the parent function and transformations and write equations in the form of $y = a f(x - h) + k$ when given a graph – Solve absolute value equations			
<b>Understand</b> – The effect of various variables on the transformations of parent functions (the effect $a$ has on the graph of $y = a f(x)$ , the effect $h$ has on the graph of $y = f(x - h)$ , the effect $k$ has on the graph of $y = f(x) + k$ , the effect $-1$ has on the graph of $y = -f(x)$ ) – The connection between a system and the solution to an absolute value equation			

### Vocabulary of special linear functions

Transformation

Vertical/Horizontal Translation

Reflection

Parent Function

Vertical/Horizontal Dilation

Absolute Value

## Reflection page

Areas of success for this unit and justification	Areas that need more practice and/or deeper understanding, justification, and specific goals to achieve complete mastery
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How does the mathematics we studied in this unit relate to the content and universal essential questions? Be specific by providing evidence from your learning activities for the unit.