Unit 4: Modeling with Quadratic Functions

CCSS	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Key features (F.IF.4) Relate domain to application (F.IF.5) Average rate of change (F.IF.6) Compare different representations (F.IF.9)	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Identify and compare key features of two functions represented in **all** of the following ways ● algebraically ● graphically ● tables ● in context	Identify and compare key features of two functions represented in **three** of the following ways ● algebraically ● graphically ● tables ● in context	Identify and compare key features of two functions represented in **two** of the following ways ● algebraically ● graphically ● tables ● in context	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Key features (F.IF.7a) Equivalent forms show what on a graph (F.IF.8a)		Use factoring and completing the square in a quadratic function to determine ● the vertex ● axis of symmetry, ● direction of opening, ● zeros/roots **in context of the situation** Graph quadratic functions expressed in vertex form and standard form and show key features of the graph **in context of a situation.**	**Use factoring and completing the square** in a quadratic function to determine ● the vertex ● axis of symmetry, ● direction of opening, ● zeros/roots Graph quadratic functions expressed in vertex form **and** standard form, and show key features of the graph	**Given a quadratic function** in • vertex form find the vertex; • factored form find the zeros/roots; • standard form find the direction of opening Graph quadratic functions expressed in vertex form **or** standard form, and show key features of the graph	
Write a function (F.BF.1a) Combine standard functions arithmetically (F.BF.1b)		Combine linear, exponential, and quadratic functions to model real world situations.	Combine linear, exponential, and quadratic functions	Combine linear, exponential, or quadratic functions	
Rearrange equations (A.CED.4)		Solve multi-step literal equations involving more than 2 variables **in contextual situations**	Solve multi-step literal equations involving **more than 2 variables**	Solve multi-step literal equations involving **2 variables**	