

Unit 4: Modeling Polynomial Functions

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Graph equations (A.CED.2)	<p>Can extend thinking beyond the standard, including tasks that may involve one of the following:</p> <ul style="list-style-type: none"> • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving 	Create and graph a system of inequalities for contextual situations	Create and graph a system of inequalities for contextual situations	Identify a system of inequalities for contextual situations	<p>Little evidence of reasoning or application to solve the problem</p> <p>Does not meet the criteria in a level 1</p>
Zeros and graphs of polynomials (A.APR.3)		Identify the zeros of a polynomial function in standard form and use the zeros as one of the criteria to construct a rough graph of the function	Identify the zeros of a polynomial function in factored form and use the zeros of the function as one of the criteria to construct a rough graph of the function	Identify the zeros of a polynomial function in factored form and can only correctly graph the zeros.	
Solve systems of equations(A.REI.11)		For rational functions find intersection points using technology, graphs, and tables and explain in the context of a situation	For rational functions find intersection points using technology, graphs, and tables	For rational functions find intersection points using technology, graphs or tables	
Interpret key features (F.IF.4) Graph polynomial functions; identify key features (F.IF.7c)		Graph polynomial functions and interpret all key features of the graph in the context of a situation	Graph polynomial functions and interpret some key features of the graph in the context of a situation	Graph polynomial functions and identify key features of the graph	
		Translate a verbal description of a relationship to sketch a polynomial graph	Translate a verbal description of a graph's key features to sketch a polynomial graph	Translate a verbal description of a graph's key features to identify a polynomial graph	
		Identify an appropriate domain based on the context from both graphs and verbal/written descriptions	Identify an appropriate domain based on the context from graphs or verbal/written descriptions	Identify the domain from graphs or verbal/written descriptions	
		Identify the meaning of a point from both graphs and verbal/written descriptions in terms of the context	Identify the meaning of a point from a graph or verbal/written description in terms of the context	Identify the meaning of a point from a graph or verbal/written description	
Average rate of change (F.IF.6)	Calculate the average rate of change over a given interval and explain the meaning in context.	Calculate the average rate of change over a given interval	Describe the average rate of change over a given interval		
Compare functions from different representations (F.IF.9)	Compare key features of two functions represented <ul style="list-style-type: none"> • algebraically • graphically • numerically in tables • verbal descriptions Key features include: <ul style="list-style-type: none"> • intercepts • domain/range • increasing or decreasing • positive or negative symmetries • end behavior 	Compare key features of two functions represented <ul style="list-style-type: none"> • algebraically • graphically • numerically in tables • verbal descriptions Key features include: <ul style="list-style-type: none"> • intercepts • domain/range • increasing or decreasing 	Compare key features of two functions represented <ul style="list-style-type: none"> • algebraically • graphically • numerically in tables • verbal descriptions Key features include: <ul style="list-style-type: none"> • intercepts • domain/range 		

<p>Transformations using k (F.BF.3)</p>	<p>Identify the effect on a graph by replacing $f(x)$ with <u>more than two</u> transformations: $f(x) + k$, $a f(x)$, $f(bx)$, $f(x + h)$ for specific positive and negative values of the constants a, b, h, and k</p> <p>Write a function given <u>more than two transformations.</u></p>	<p>Identify the effect on a graph by replacing $f(x)$ with <u>two</u> transformations: $f(x) + k$, $a f(x)$, $f(bx)$, $f(x + h)$ for specific positive and negative values of the constants a, b, h, and k</p> <p>Write a function given <u>two transformations.</u></p>	<p>Identify the effect on a graph by replacing $f(x)$ with a <u>single</u> transformation: $f(x) + k$, $a f(x)$, $f(bx)$, $f(x + h)$ for specific positive and negative values of the constants a, b, h, and k</p> <p>Write a function given <u>a transformation.</u></p>
<p>Equation of a parabola (G.GPE.2)</p>	<p><u>Write the equation</u> of a parabola given its focus and directrix</p>	<p><u>Identify the equation</u> of a parabola given its focus and directrix</p>	<p>Identify the focus and directrix of a parabola</p>