

Precalculus Desmos Projects Checklist

Project	Description	Complete?	Grade																																	
<i>Introduction</i>	Make a Desmos Account (you can use Gmail). Explore Desmos using Desmos Explorations and the Desmos Art Gallery . The Desmos User's Guide is also available online.																																			
<i>Linear Functions</i>																																				
Equation of a Line	Find the equation of a line that passes through (2 ,8) and (6, 2)																																			
Make an "A"	Students must adjust the domain restrictions to make a perfect "A". Assignment here https://www.desmos.com/calculator/jpdjhb3qdk																																			
Make a Box	Make a Three Dimensional Looking Box Using lines with restricted domains. Start with making a 4 point rectangle..... then make another one offset up and to the right. Connect the corners to give the art depth. You may need to find the equation of a line given two points to make the connection.																																			
Linear Model Project	The following table lists values of x and y. <table style="margin-left: 40px;"> <tr> <td>Pupil</td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> <td>F</td> <td>G</td> <td>H</td> <td>I</td> <td>J</td> </tr> <tr> <td>Math Score</td> <td>45</td> <td>83</td> <td>65</td> <td>62</td> <td>71</td> <td>52</td> <td>69</td> <td>72</td> <td>58</td> <td>64</td> </tr> <tr> <td>Science Score</td> <td>39</td> <td>80</td> <td>59</td> <td>60</td> <td>65</td> <td>54</td> <td>65</td> <td>67</td> <td>56</td> <td>64</td> </tr> </table> <ol style="list-style-type: none"> Plot the points on desmos (see Scatterplot/Linear Regression example). Use a calculator or online tool to find the line of best fit using least squares regression Put the line of best fit on your graph Use text boxes in desmos to describe <ol style="list-style-type: none"> The meaning of the slope The meaning of the y-intercept 	Pupil	A	B	C	D	E	F	G	H	I	J	Math Score	45	83	65	62	71	52	69	72	58	64	Science Score	39	80	59	60	65	54	65	67	56	64		
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<i>Quadratic Functions</i>																																				
Quadratic Forms	<ol style="list-style-type: none"> Graph a parabola written in vertex form whose vertex is (-5,2) that passes through (-4,5) Graph a parabola written in standard form whose vertex is (4,4) that passes through (0,0) [hint- it opens down] Graph a parabola in factored form whose x intercepts are 4 and -2. 																																			
St. Louis Arch	Cover the image of the St. Louis Arch with a parabola. Click here for the link																																			
Quadratic Given Three Points	Graph the points (-2,16), (0 ,2), and (3, -4) then use $y=ax^2+bx+c$ to create a three by three system of equations. Solve for a, b, and c. Check your work on the applet: Applet																																			
<i>Polynomial Functions</i>																																				
Roots and Multiplicity of a Polynomial	<ol style="list-style-type: none"> Graph a polynomial that has roots of -3, 0 and 2--. Write it in full polynomial form and show that it is the same graph. Graph a polynomial that has the following roots and multiplicities Root: -3, Multiplicity 2 Root -1, Multiplicity 1 Root 2, Multiplicity 3 Root 4, Multiplicity 1 																																			
<i>Rational Functions</i>																																				
Graph a Rational	1. Graph a rational expression that has vertical asymptotes at $x=2$ and $x=-1$ and a horizontal asymptote at $y=3$																																			