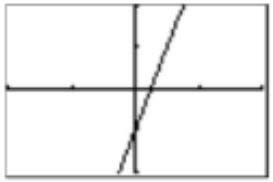
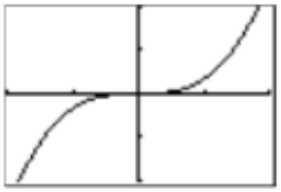
Name: Period: Date:

Math Lab: Investigating Polynomial Behavior

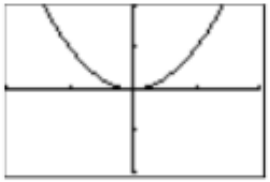
Cross



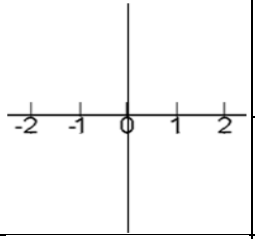
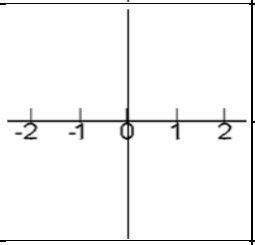
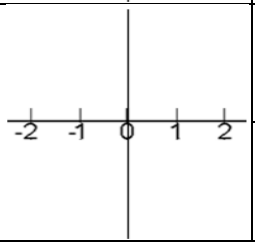
Wiggle

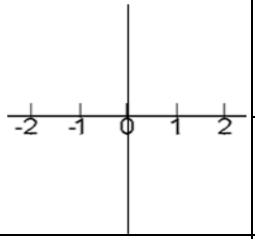
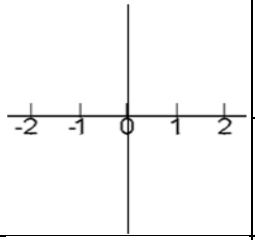
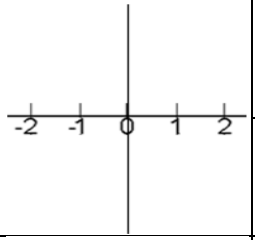
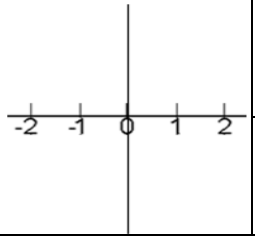


Bounce



Each graph will have one or more of these zeros. If it has that zero, does it wiggle, bounce, or cross at that point? Give the exponent of the corresponding factor.

Equation	Graph	$x = -1$	$x = 0$	$x = 1$	Left End Behavior	Right End Behavior	Sign of Leading Coefficient	Degree
1] $y = 2x^4(x-1)$								
2] $y = -6x(x+1)^5$								
3] $y = 3x(x-1)^3(x+1)^2$								

		Each graph will have one or more of these zeros. If it has that zero, does it wiggle, bounce, or cross at that point? Give the exponent of the corresponding factor.						
Equation	**Graph**	$x = -1$	$x = 0$	$x = 1$	**Left End Behavior**	**Right End Behavior**	**Sign of Leading Coefficient**	**Degree**
4] $y = -5x(x-1)^6(x+1)^7$								
5] $y = -5x^2(x+1)^3(x-1)^4$								
6] $y = 4x^2(x-1)^5(x+1)$								
7]$y = 200x^2(x-1)^5(x+1)^6$								

8] What do you notice about the exponent on the factor in each equation when the graph “bounces” off of a zero?

9] What do you notice about the exponent on the factor in each equation when the graph “wiggles” through a zero?

10] What do you notice about the exponent on the factor in each equation when the graph “crosses” through a zero?

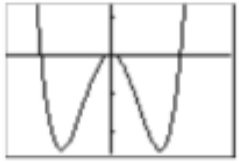
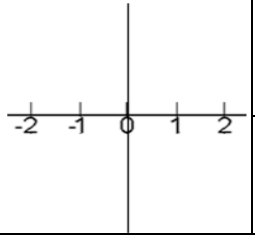
11] Describe the end behavior when the leading coefficient of an even degree polynomial is positive.

12] Describe the end behavior when the leading coefficient of an even degree polynomial is negative.

13] Describe the end behavior when the leading coefficient of an odd degree polynomial is positive.

14] Describe the end behavior when the leading coefficient of an odd degree polynomial is negative.

15] Describe two ways you can find the degree of a polynomial given the equation in factored form.

		Each graph will have one or more of these zeros. If it has that zero, does it wiggle, bounce, or cross at that point? Give the exponent of the corresponding factor.						
Equation	**Graph**	$x = -1$	$x = 0$	$x = 1$	**Left End Behavior**	**Right End Behavior**	**Sign of Leading Coefficient**	**Degree**
16]		wiggle	bounce	none				
		5	4	n/a				
17]		cross	bounce	cross				
			6					
18]					down	down		
		4	7	1				