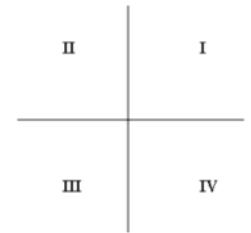


C_05 Polynomial Graph Characteristics

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Section 3.1 Graphs of Polynomial Functions

Complete the tables to help you compare the graphs of different polynomial functions.

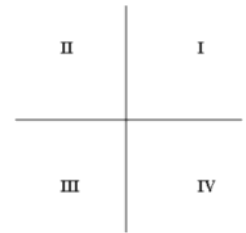












Set	Function	Sketch	End Behavior Q# to Q#	Degree	Leading Coefficient
A (odd degree)	Linear $y = x$				
	Cubic $y = x^3$				
	Quintic $y = x^5$				
	Linear $y = -x$				
	Cubic $y = -2x^3$				
	Quintic $y = -2x^5$				
B (even degree)	Quadratic $y = x^2$				
	Quartic $y = x^4$				
	Quadratic $y = -3x^2$				
	Quartic $y = -2x^4$				

Set		Function	Degree	Constant Term	Value of y-intercept	Number of x-Intercepts
C (odd degree)	Linear	$y = x + 1$				
	Cubic	$y = x^3 + 4x^2 + x - 6$				
	Cubic	$y = x^3 - 2$				
	Quintic	$y = x^5 + 3x^4 - 5x^3 - 15x^2 + 4x + 12$				
	Quintic	$y = x^5 - 3$				
D (even degree)	Quadratic	$y = x^2 + 5x + 6$				
	Quadratic	$y = x^2 + 4$				
	Quartic	$y = x^4 + 2x^3 - 7x^2 - 8x + 7$				
	Quartic	$y = x^4 + 2$				

Section 3.1 Graphs of Polynomial Functions

Complete the tables to help you compare the graphs of different polynomial functions.



Set	Function	Sketch	End Behavior Q# to Q#	Degree	Leading Coefficient
A (odd degree)	Linear $y = x$		down Q ₃ , up Q ₁	1	+1
	Cubic $y = x^3$		down Q ₃ up Q ₁	3	+1
	Quintic $y = x^5$		down Q ₃ up Q ₁	5	+1
	Linear $y = -x$		up Q ₂ down Q ₄	1	-1
	Cubic $y = -2x^3$		up Q ₂ down Q ₄	3	-2
	Quintic $y = -2x^5$		up Q ₂ down Q ₄	5	-2
B (even degree)	Quadratic $y = x^2$		up Q ₂ up Q ₁	2	+1
	Quartic $y = x^4$		up Q ₂ up Q ₁	4	+1
	Quadratic $y = -3x^2$		down Q ₃ down Q ₄	2	-3
	Quartic $y = -2x^4$		down Q ₃ down Q ₄	4	-2

Set		Function	Degree	Constant Term	Value of y-intercept	Number of x-Intercepts
C (odd degree)	Linear	$y = x + 1$	1	1	1	1
	Cubic	$y = x^3 + 4x^2 + x - 6$	3	-6	-6	3
	Cubic	$y = x^3 - 2$	3	-2	-2	1
	Quintic	$y = x^5 + 3x^4 - 5x^3 - 15x^2 + 4x + 12$	5	12	12	5
	Quintic	$y = x^5 - 3$	5	-3	-3	1
D (even degree)	Quadratic	$y = x^2 + 5x + 6$	2	6	6	2
	Quadratic	$y = x^2 + 4$	2	4	4	0
	Quartic	$y = x^4 + 2x^3 - 7x^2 - 8x + 7$	4	7	7	4
	Quartic	$y = x^4 + 2$	4	2	2	0