

GUIDED NOTES: Graphs of Polynomial Functions

End Behavior leading term of a polynomial $y = ax^n + \dots$

odd/even

	even exponent	odd exponent
positive coefficient		
negative coefficient		

positive / negative

- even exponent - positive coefficient
- odd exponent - negative coefficient
- even exponent - negative coefficient
- odd exponent - positive coefficient

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Zero: a number that you plug into x to make the equation $= 0$.

places where the graph hits the x -axis

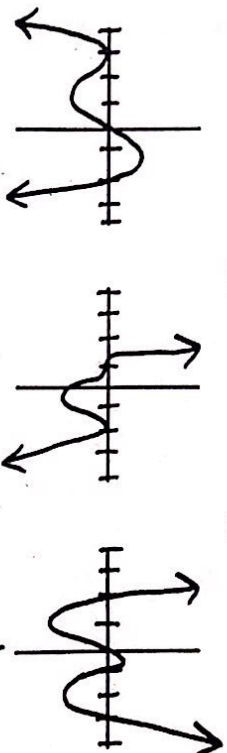
Zeros and Multiplicity

Multiplicity: number of times the graph hits the zero

EX4: straight thru zero, multiplicity of 1

EX5: "bounce", multiplicity of 2

EX6: "flattens", multiplicity of 3



Zeros:

$x = -3$	mult 2	Zeros:	$x = -1$	mult 3	Zero:	$x = 2$	m 1
$x = 0$	mult 1		$x = 2$	mult 2		$x = 0$	m 1
$x = 2$	mult 1		- odd exponent			$x = 1$	m 1
			- even exponent			$x = 2$	m 1
			- negative coefficient				

- even exp. - positive coeff.

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