

Part 2: Odd or Even Symmetry - polynomial functions

For each of the following polynomial functions, fill in the required information, then look for patterns. Use technology GeoGebra or GraphCalc to help you get the sketches.

Equation and sketch	Odd/Even Degree	Odd/Even/Neither symmetry	Number of zeros
$y = x^4 - 2x^2 + 1$			
$y = x^6 + 5x^4 - x^2 + 1$			

What do you notice about all the powers on each term of these polynomials?

What do you notice about the number of zeros?

Equation and sketch	Odd/Even Degree	Odd/Even/Neither symmetry	Number of zeros
$y = x^5 - 2x^3 - x$			
$y = x^7 + 5x^5 - x^3 + x$			

What do you notice about all the powers on each term of these polynomials?

What do you notice about the number of zeros?

Equation and sketch	Odd/Even Degree	Odd/Even/Neither symmetry	Number of zeros
$y = x^4 - 2x^3 - x$			
$y = x^6 - 2x^5 - 4x^4 + 6x^3 + 7x^2 - 4x - 4$			
$y = x^7 + 5x^5 - x^3 + 5$			
$y = x^5 - x^4 - 5x^3 + x^2 + 8x + 4$			

What do you notice about all the powers on each term of these polynomials?

What do you notice about the number of zeros?
