Bellwork Alg 2 Thursday, November 7, 2019

Use what you know about end behavior, possible number of x-intercepts, and number of extrema for polynomials to find a good window that shows all extrema, x-intercepts, and intervals of increasing and decreasing for this polynomial:

$y = x^6 + 4x^5 - 261x^4 - 376x^3 + 11,648x^2 + 100,000$

State the window used and sketch this polynomial. Sketch

$X_{min} =$

$X_{max} =$

$Y_{min} =$

$Y_{max} =$

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Use what you know about end behavior, possible number of x-intercepts, and number of extrema for polynomials to find a good window that shows all extrema, x-intercepts, and intervals of increasing and decreasing for this polynomial:

$y = x^6 + 4x^5 - 261x^4 - 376x^3 + 11648x^2 + 100000$ → POS EVEN END BEHAVIOR ↑ ↗

6TH DEGREE POLYNOMIAL

max X-INT = 6

max extremes = 5

State the window used and sketch this polynomial.

$X_{min} = -20$

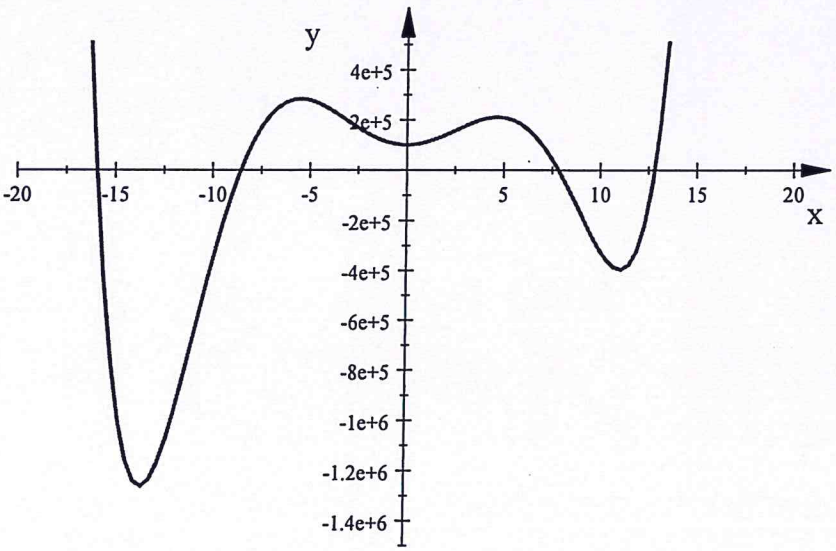
$X_{max} = 20$

$Y_{min} = -1,500,000$

$Y_{max} = 500,000$

windows may vary

Sketch



THIS IS A GOOD WINDOW BECAUSE

- Graph has correct end behavior
- Graph shows max # extremes
- even though it shows less than max # of x-int there can't be any more because to create more x-int would also create more extremes and that's not possible because we already have the max possible extremes.