

term: number and/or variables separated by +/- signs

monomial
one term

binomial
two terms

trinomial
three terms

Polynomials
four or more terms

degree: highest exponent of the variable in the polynomial

constant
degree 0
(no variable)

linear
degree 1

quadratic
degree 2

cubic
degree 3

quartic
degree 4

quintic
degree 5

nth degree
degree 6+

polynomial	degree	classification by degree	number of terms	classification by terms
$f(x) = x^4 - 2x + 11$	4	quartic	3	trinomial
$f(x) = 8x^2 - 3x^3$	3	cubic	2	binomial
$f(x) = x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$	6	6 th degree	7	polynomial
$f(x) = 8$	0	constant	1	monomial

Polynomial Vocabulary

extrema: high & low points on a graph
(turning points)

absolute extrema: the highest or lowest point

relative extrema: points higher or lower than others nearby

maximum - high point

minimum - low point



Extrema

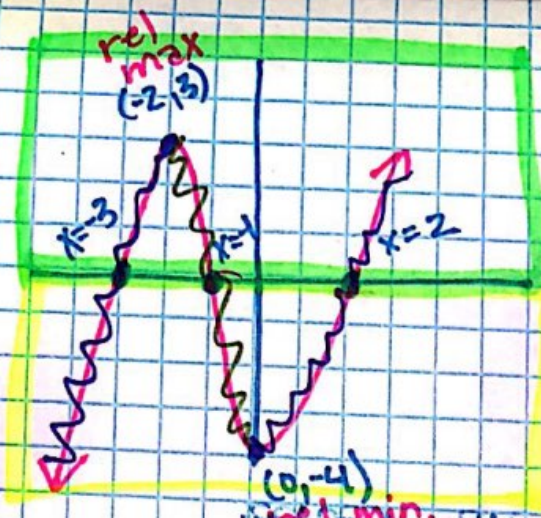
increasing - where graph is going up

decreasing - where graph is going down

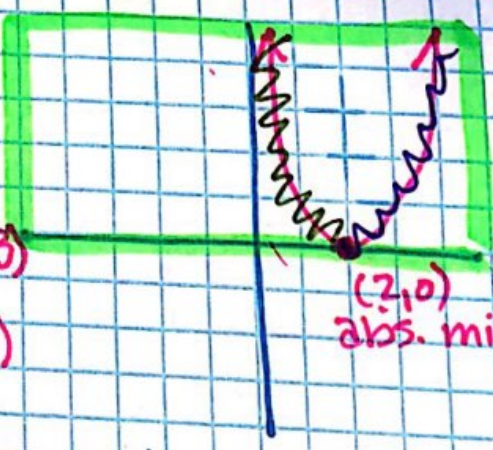
positive - where $f(x)$ is positive

negative - where $f(x)$ is negative

* use x-values like we would with domain *



Pos: $(-3, -1)$
P
 $(2, \infty)$
neg: $(-\infty, -3)$
P
 $(-1, 2)$



Pos: $(-\infty, 2)$
P
 $(2, \infty)$
 $(2, 0)$
abs. min

x inc: $(-\infty, -2)$ P $(0, \infty)$

* dec: $(-2, 0)$

inc: $(2, \infty)$

x dec: $(-\infty, 2)$

Increasing / Decreasing

Positive / Negative