

Evens, Odds, Increasing, Decreasing, Local, Absolute

Even Functions

$F(\text{---}) = \text{---} F(\text{---})$

Symmetric about the _____

Odd Functions

$F(\text{---}) = \text{---} F(\text{---})$

Symmetric about the _____

An increasing function on an open interval, should $x_1 < x_2$, will have the values where $F(x_1) \text{ --- } F(x_2)$

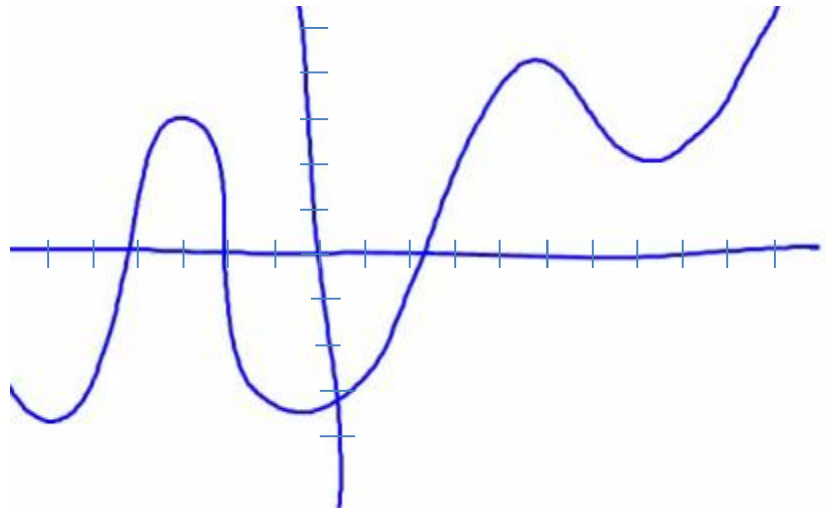
A decreasing function on an open interval, should $x_1 < x_2$, will have values where $F(x_1) \text{ --- } F(x_2)$

A constant function is when all of the $F(x)$ values are _____

The interval $(3, 7)$ can be written as the inequality _____

Please note the local minimums and maximums, as well as their respective absolute maximums on the graph.

While you're at it, indicate the intervals where $F(x)$ is increasing and where it's decreasing



Determine, through algebra, whether or not each function is odd, even, or neither

- $f(x) = 4x^3$
- $f(x) = 2x^4 - x^2$
- $f(x) = \frac{1}{x^2}$
- $f(x) = \frac{x}{x^2-1}$
- $f(x) = x + |x|$
- $f(x) = \frac{2x}{|x|}$
- $f(x) = 3x^3 + 5$

Section 1.4 Video Worksheet – 9th Edition

Use a graphing calculator to graph these functions, adjust the window according to the interval, and approximate local max and mins as well as the intervals upon which the function is increasing or decreasing

- $f(x) = x^3 - 3x + 2$ (-2,2)
- $f(x) = -0.2x^3 - 0.6x^2 + 4x - 6$ (-6,4)
- $f(x) = x^5 - x^3$ (-2,2)
- $f(x) = x^3 - 3x^2 + 5$ (-1,3)
- $f(x) = -0.4x^4 - 0.5x^3 + 0.8x^2 - 3$ (-3,2)

For the function $f(x) = -x^3 + 12x$, determine if the function is odd, even, or neither. There is a local max of 16 at $x=2$, what is the local minimum?

Extreme Value Theorem

If _____ is a _____ functions whose domain is a _____ interval $[a,b]$, then _____ has an _____ maximum and an _____ minimum on $[a,b]$.