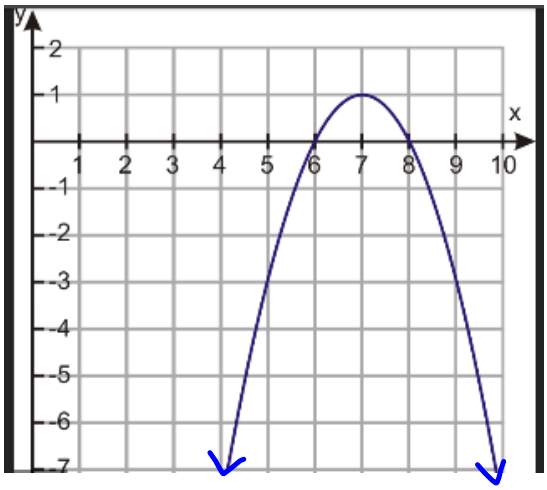
What do you know about this graph?

Discuss with a partner and be ready to share.

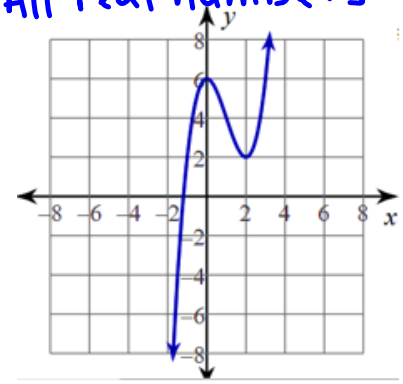


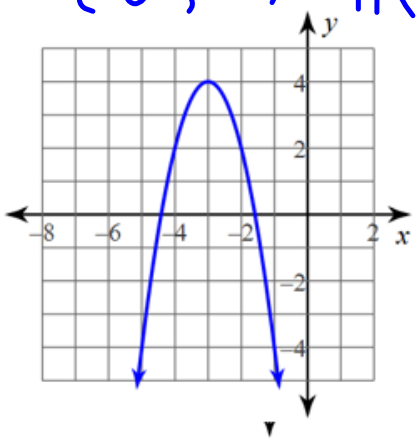
Domain:

The set of all inputs; x-values

Look: Left to Right

All real numbers $(-\infty, \infty)$ $\mathbb{R}$





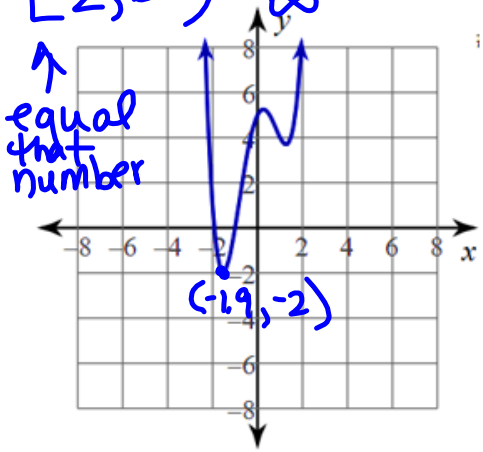
Range:

The set of output: y-values

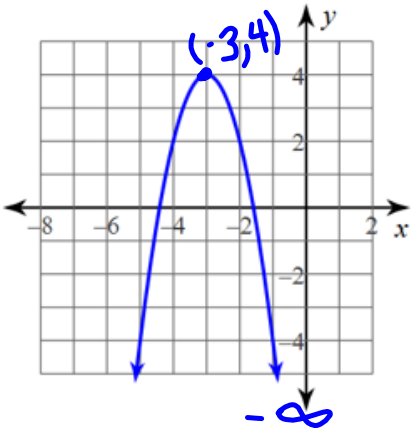
Look: down to up

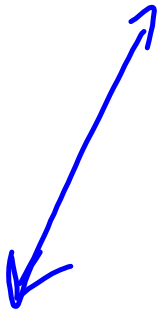
$[-2,\infty)$ $y \geq -2$

↑ equal that number



$(-\infty, 4]$ $y \leq 4$





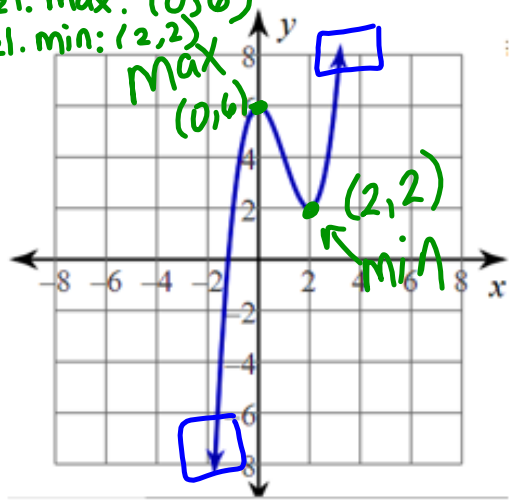
Relative Maximum: The highest point in a particular section of the graph

peak

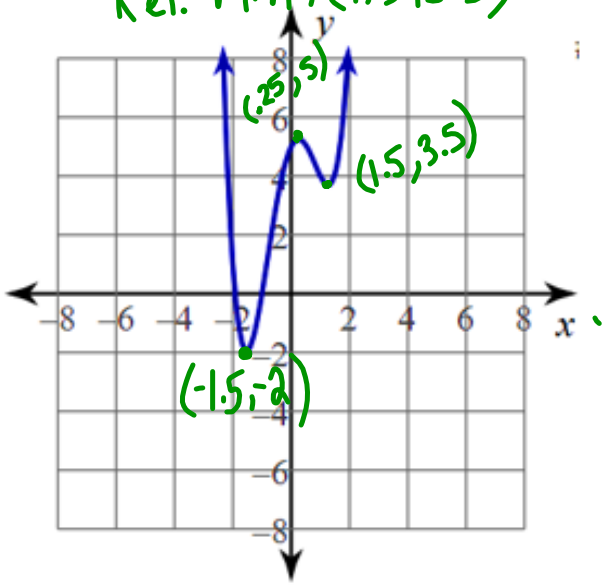
Relative Minimum: The lowest point in a particular section of the graph

dip

Rel. max: (0,6)
Rel. min: (2,2)



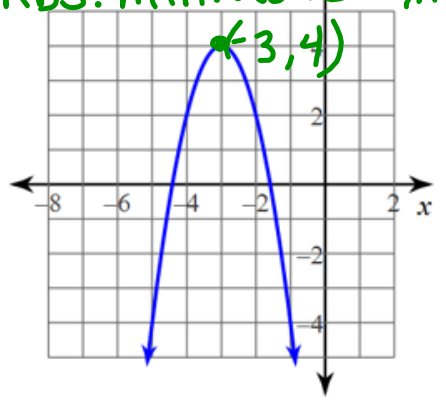
Rel. max: (.25,5)
Rel. min: (1.5,3.5)



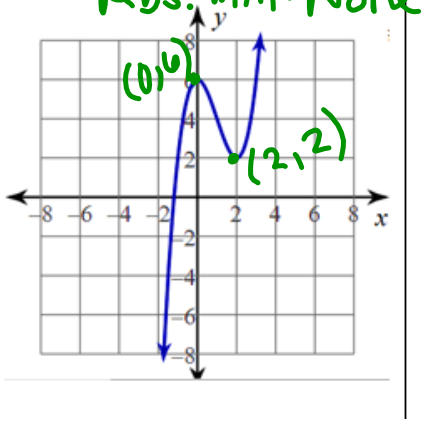
Absolute Maximum:
The highest point over the ENTIRE domain of the graph

Absolute Minimum:
The lowest point over the ENTIRE domain of the graph

Abs. max: (-3, 4)
Abs. min: None N/A

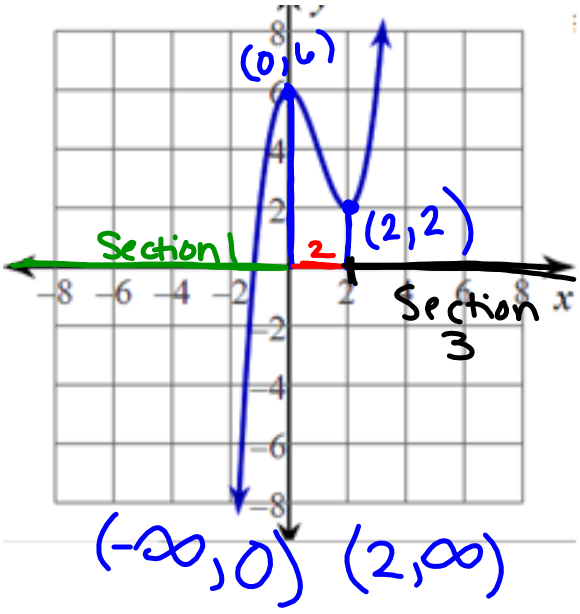


Abs. max: None.
Abs. min: None



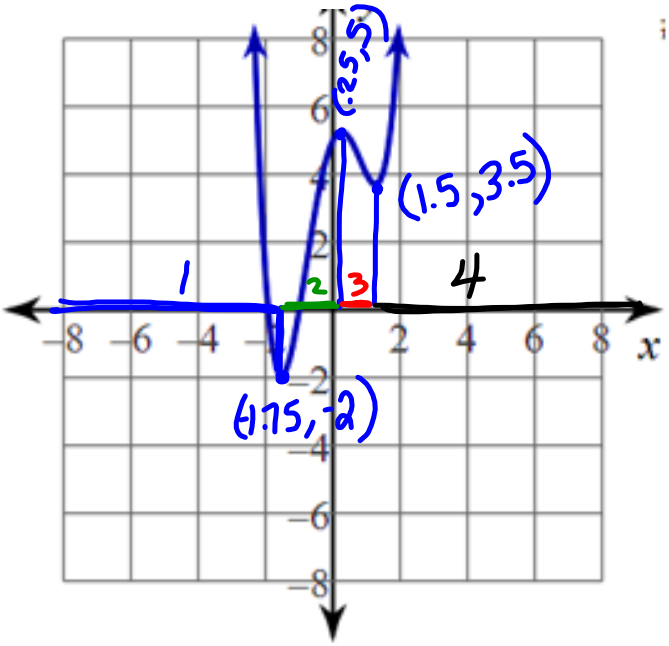
Interval of Increase:
The set of values whereas x increases, f(x) increases.

only use X values

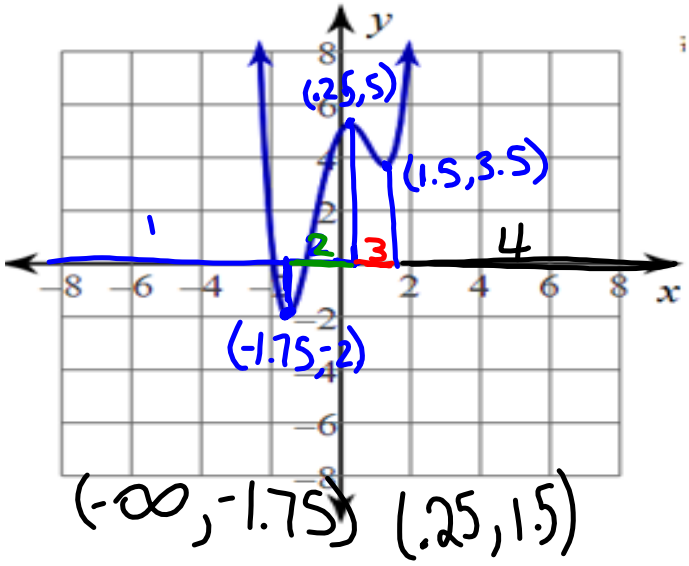


$(-\infty, 0)$ $(2, \infty)$

$(-1.75, .25)$ $(1.5, \infty)$

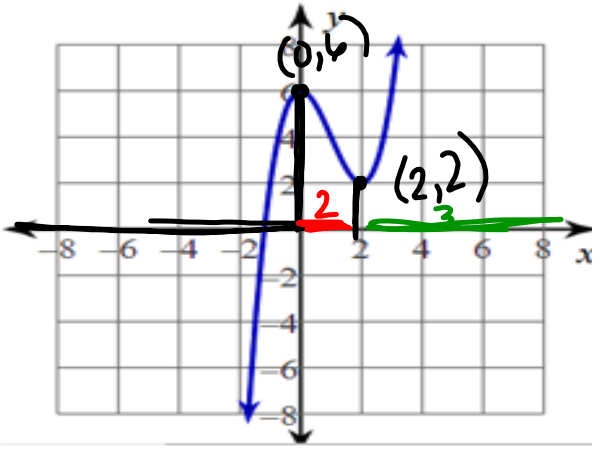


Interval of Decrease: The set of values whereas x increases, f(x) decreases.



$(-\infty, -1.75)$ $(.25, 1.5)$

(0,2)

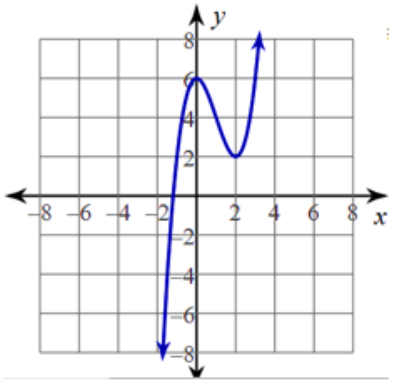


End Behavior:

How does the graph act? Where do the arrows point?

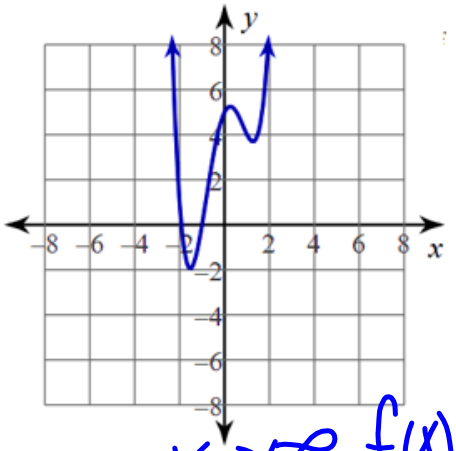
$x \to \infty$ (Right) $f(x) \to$ _____

$x \to -\infty$ (Left) $f(x) \to$ _____



$x \to \infty$ $f(x) \to \infty$

$x \to -\infty$ $f(x) \to \infty$



$x \to \infty$ $f(x) \to \infty$

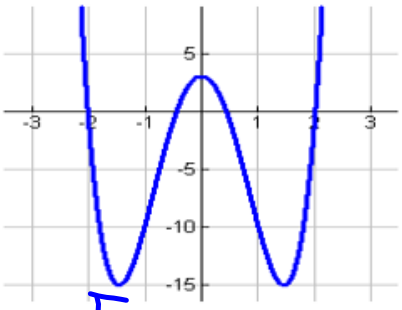
$x \to -\infty$ $f(x) \to \infty$

Symmetry:

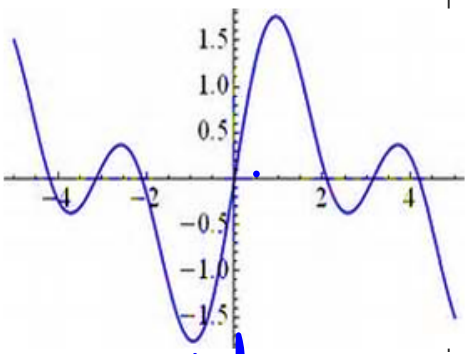
Even, Odd, or Neither

Even - Symmetric to the y axis

Odd - Symmetric to the origin

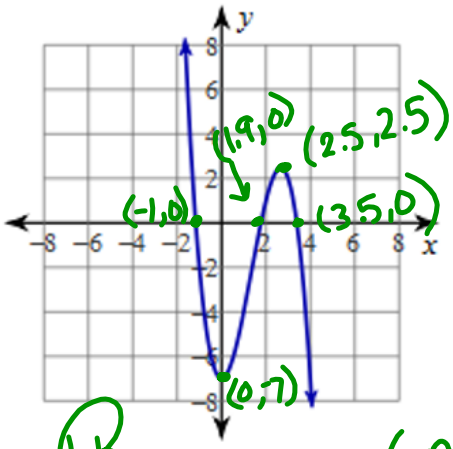


Even



Odd

1.



Domain $\mathbb{R}$ Range $(-\infty, \infty)$

Int. of Increase $(0, 2.5)$ Int. of decrease $(-\infty, 0)(2.5, \infty)$

Relative Maximum $(2.5, 2.5)$ Relative Minimum $(0, -7)$

Absolute Maximum None Absolute Minimum None

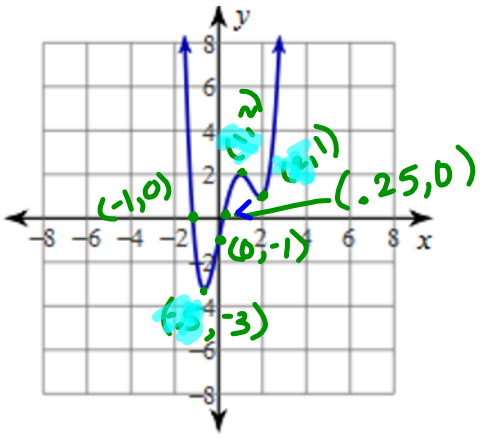
X intercept $(-1,0)(1.9,0)(3.5,0)$ y-intercept $(0, -7)$

Even/Odd/Neither Neither End Behavior

$x \to \infty \; f(x) \to -\infty$

$x \to -\infty \; f(x) \to \infty$

2.



Domain $\mathbb{R}$ Range $[-3, \infty)$

Int. of Increase $(-.5,1)(2,\infty)$ Int. of decrease $(-\infty,-.5)(1,2)$

Relative Maximum $(1,2)$ Relative Minimum $(2,1)$

Absolute Maximum None Absolute Minimum $(-.5,-3)$

X intercept $(-1,0)(.25,0)$ y-intercept $(0,-1)$

Even/Odd/Neither Neither End Behavior _____

$x \to \infty \; f(x) \to \infty$

$x \to -\infty \; f(x) \to \infty$