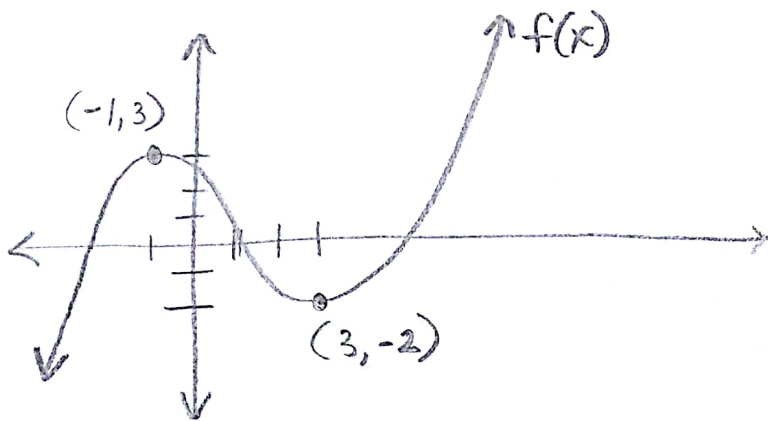


Unit 2A Day 2: Function Analysis



Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$

Increasing \rightarrow slope is positive $(-\infty, -1) \cup (3, \infty)$
* use x-values!

Decreasing \rightarrow slope is negative $(-1, 3)$
* use x-values!

Function \rightarrow passes VLT yes!

One-to-One Function \rightarrow passes HLT No!

(Relative)
Local Minimum \rightarrow slope changes from negative to positive (bottom of valley) $(3, -2)$

(Relative)
Local Maximum \rightarrow slope changes from positive to negative (top of hill) $(-1, 3)$

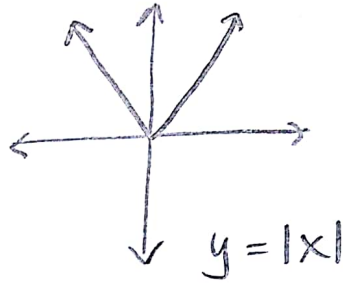
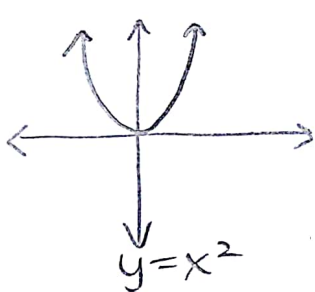
End Behavior \rightarrow what happens to y as x goes to $+$ or $- \infty$

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

Even/Odd Functions:

Even \rightarrow symmetric about y-axis
(reflects over y-axis)



Odd \rightarrow symmetric about origin
(180° rotation around origin)

