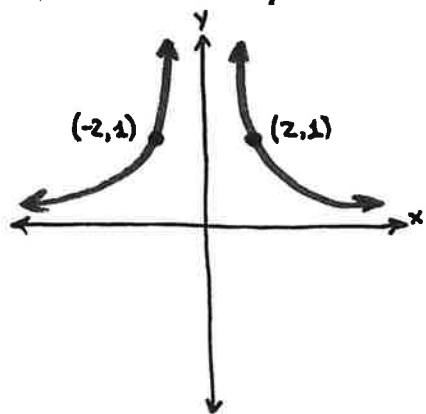
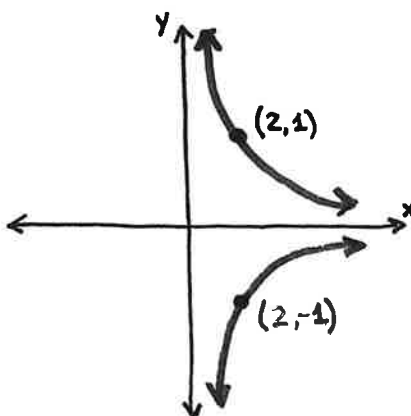


MATH 1314
Chapter 2.7: Analyzing Graphs of Functions
and Piecewise-Defined Functions

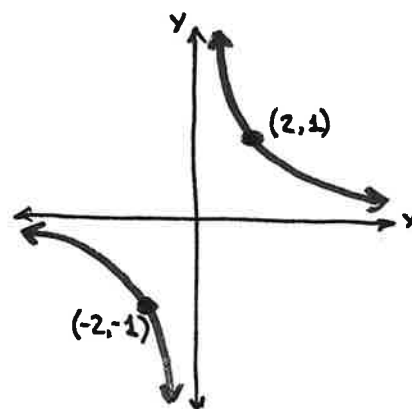
SYMMETRY



WITH RESPECT
TO Y-AXIS



WITH RESPECT
TO X-AXIS



WITH RESPECT
TO ORIGIN

TYPES OF SYMMETRY: EVEN ODD NEITHER

$$f(x) = x^3 - 6x$$

$$f(x) = x^4 - 2x^2$$

$$f(x) = x^2 + 2x + 1$$

PIECEWISE FUNCTION

A TELEPHONE PLAN CHARGES \$20 FOR THE FIRST 60 MINUTES AND \$0.40 FOR EACH ADDITIONAL MINUTE. WRITE A FUNCTION FOR THE TELEPHONE PLAN COST.

FIND $C(30)$.

FIND $C(100)$.

EVALUATE THE FUNCTION FOR THE GIVEN VALUES OF X .

$$f(x) = \begin{cases} -x-1 & \text{FOR } x < -1 \\ -3 & \text{FOR } -1 \leq x < 2 \\ \sqrt{x-2} & \text{FOR } x \geq 2 \end{cases}$$

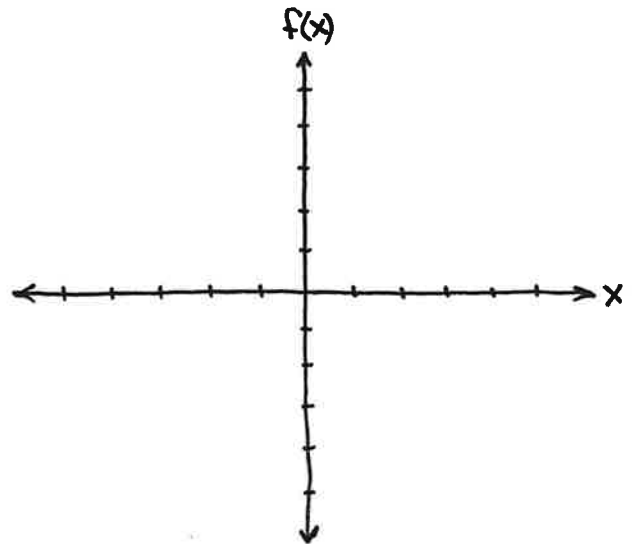
$f(-3)$

$f(-1)$

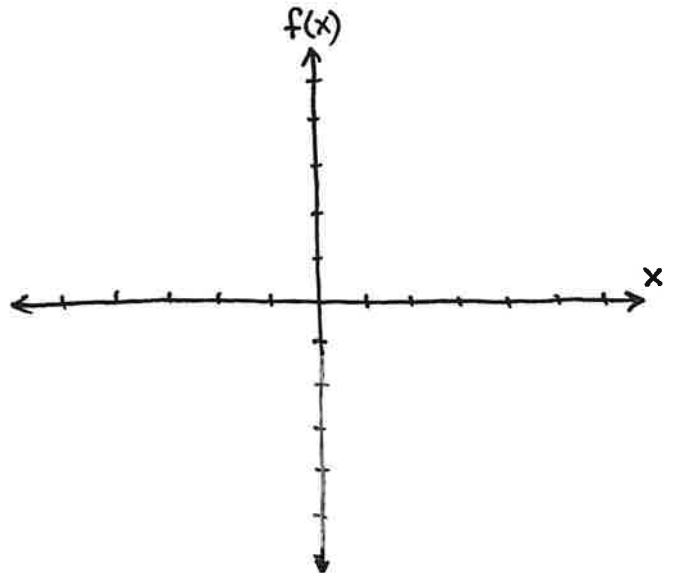
$f(2)$

$f(6)$

GRAPH $f(x) = \begin{cases} -3x & \text{for } x < 1 \\ -3 & \text{for } x \geq 1 \end{cases}$



GRAPH $f(x) = \begin{cases} x+3 & \text{for } x < -1 \\ x^2 & \text{for } -1 \leq x < 2 \end{cases}$

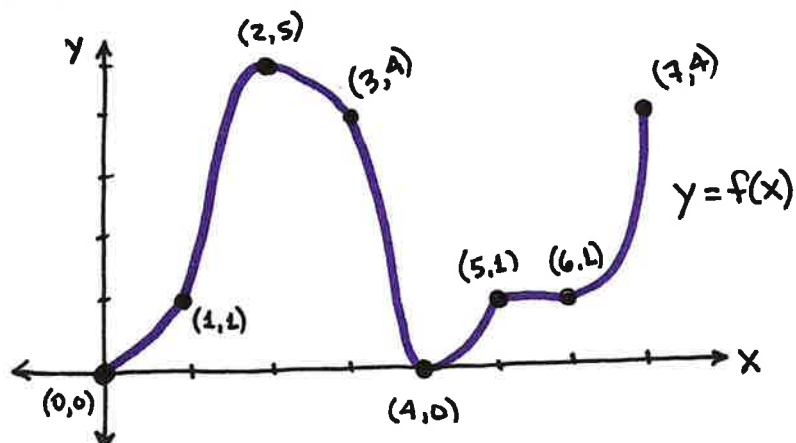


INCREASING?

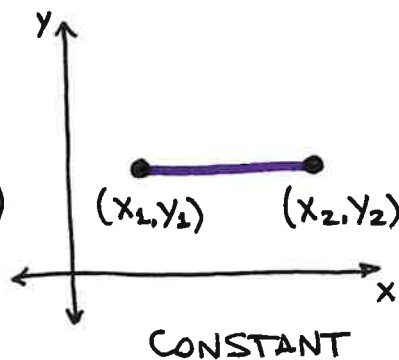
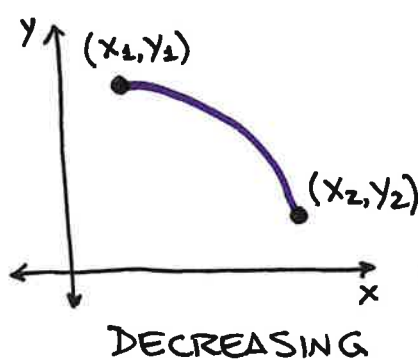
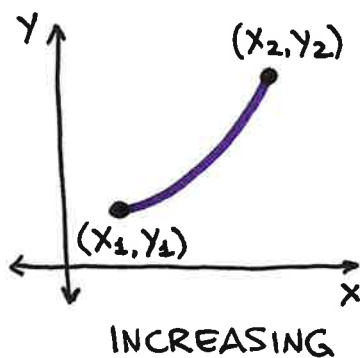
DECREASING?

MAXIMUM?

MINIMUM?



READ THE GRAPH FROM LEFT TO RIGHT!



RELATIVE OR LOCAL EXTREME POINTS

RELATIVE OR LOCAL MAXIMUM

RELATIVE OR LOCAL MINIMUM

