

## Do Now - Domain & Range

June 30, 2014

→ Given a function,  $f(x)$ , how would you find its domain?

• You would find its domain by looking at the points plotted on the graph from left → right.

→ Given the same function, how would you find its range?

• To find the range you would have to look at the points plotted from the bottom to the top.

→ Find the domain:

a)  $a(x) = x^2 - 4 \rightarrow (x-2)(x+2)$

Domain:  $(-\infty, \infty)$  Range:  $[-4, \infty)$

b)  $b(x) = \sqrt{x-4}$

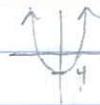
Domain:  $[4, \infty)$  Range:  $[0, \infty)$

c)  $c(x) = \frac{3}{x-4}$

Domain:  $(-\infty, 4) \cup (4, \infty)$  Range:  $(-\infty, -\infty) \cup (\infty, \infty)$

$\{x/x \neq 4\}$

$\mathbb{R}$



$\{x/x \in \mathbb{R}\}$



$\{x/x \geq 4\}$



## Graph Analysis, Day 1

- x-intercept(s)
- y-intercept
- Extrema (Maxima/Minima)
- Intervals of increase/decrease
- End Behavior

→ x-intercepts:

What is an x-intercept?

• An x-intercept is a point that lies on the x-axis.

How can you find them from an equation?

• Can find the x-intercepts by setting up the equation equal to 0.

How can you find them from a graph?

• Locate any points that lie on the x-axis.

Table? when having the x-int at a

ate About