Name Key Date

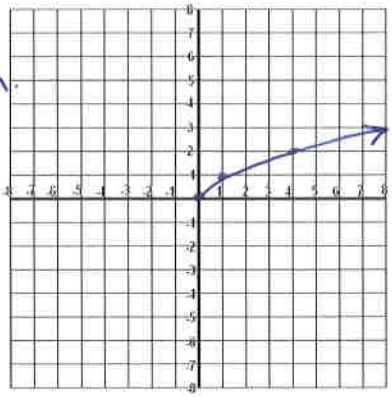
Per

Chapter 10 Section 1 Notes - Day 1

Objective: Given a radical function, **SWBAT graph and find the domain and range of a radical function with 70% accuracy.**

Graph of a Radical Function

The graph of $y = a\sqrt{x-b}+c$ **is called a** Radical function.



- **Type of graph** curve.
- **Domain:** $x \geq 0$.
- **Range:** $y \geq 0$.

$f(x) = \sqrt{x}$

x	y
0	0
1	1
4	2
9	3

Definitions:

Domain: all x-values
Set radicand ≥ 0 + solve.

Range: all y-values
"c" value

Examples Domain and Range:

1. **f(x) =** $\sqrt{x} - 2$

domain: $x \geq 0$
range: $y \geq -2$

2. **f(x) =** $\sqrt{x+2}$

domain: $x \geq -2$
range: $y \geq$

3. **f(x) =** $3\sqrt{x}$

domain: $x \geq 0$
range: $y \geq 0$

4. **f(x) =** $\sqrt{2x-4}$

$2x-4 \geq 0$
$2x \geq 4$
$x \geq 2$

domain: $x \geq 2$
range: $y \geq 0$

Graph Example 1: f(x) = $2\sqrt{x}$

domain: $x \geq 0$

range: $y \geq 0$

x	y
0	0
1	2
4	4
9	6

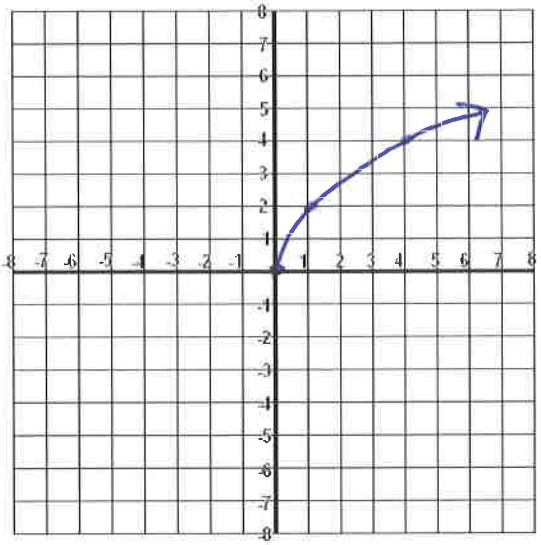
radicand ← perfect squares.

$x = 0$

$x = 1$

$x = 4$

$x = 9$



Example 2: f(x) = $\sqrt{x-2}$

$x - 2 \geq 0$

$x \geq 2$

domain: $x \geq 2$

range: $y \geq 0$

x	y
2	0
3	1
6	2
11	3

radicand ← perfect squares.

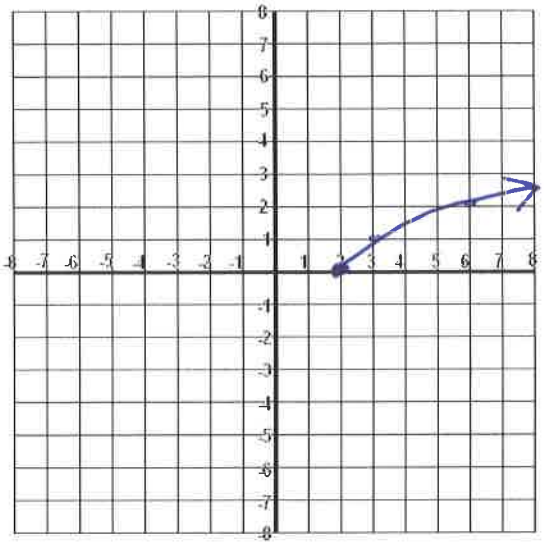
$x - 2 = 0$

$x - 2 = 1$

$x - 2 = 4$

$x - 2 = 9$

solve to get x values!



Example 3: f(x) = $\sqrt{x} - 2$

domain: $x \geq 0$

range: $y \geq -2$

x	y
0	-2
1	-1
4	0
9	1

radicand ← perfect squares.

$x = 0$

$x = 1$

$x = 4$

$x = 9$