Algebra 2

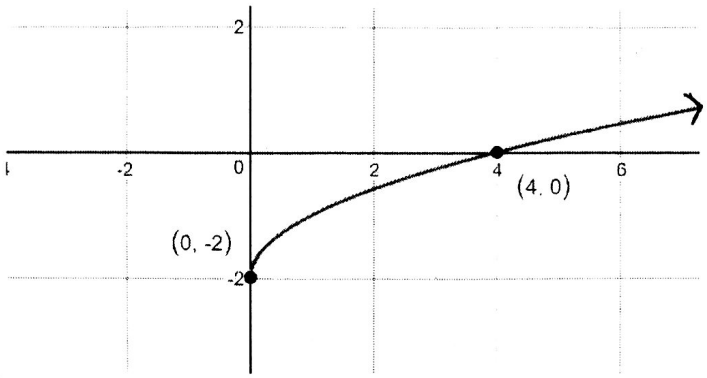
Name: Key

Characteristics of Radical Functions

Date: _____ Block: _____

Identify the characteristics for each function.

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




Domain: $x \geq 0$ Range: $y \geq -2$ x-intercept: $(4, 0)$

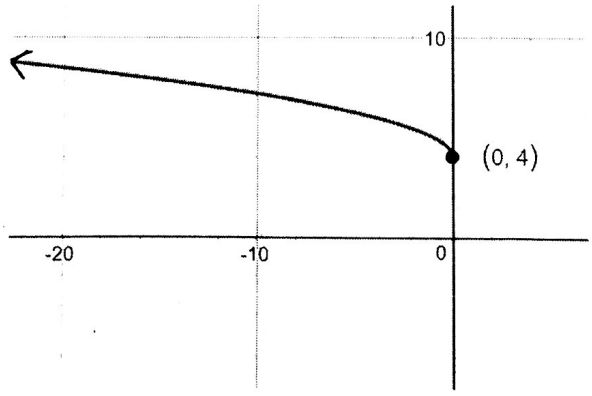
y-intercept: $(0, -2)$ Interval of Increase: $[0, \infty)$ Interval of Decrease: N/A

Absolute Maximum: N/A Absolute Minimum: $(0, -2)$

End Behavior: as x $\to \infty$, f(x) $\to \infty$

as x $\to 0$, f(x) $\to -2$

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




Domain: $x \leq 0$ Range: $y \geq 4$ x-intercept: N/A

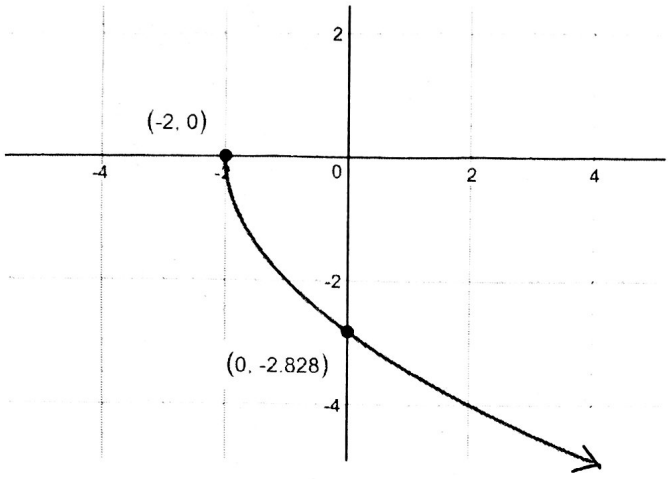
y-intercept: $(0, 4)$ Interval of Increase: N/A Interval of Decrease: $(-\infty, 0]$

Absolute Maximum: N/A Absolute Minimum: $(0, 4)$

End Behavior: as x $\to 0$, f(x) $\to 4$

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

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




Domain: $x \geq -2$ Range: $y \leq 0$ x-intercept: $(-2, 0)$

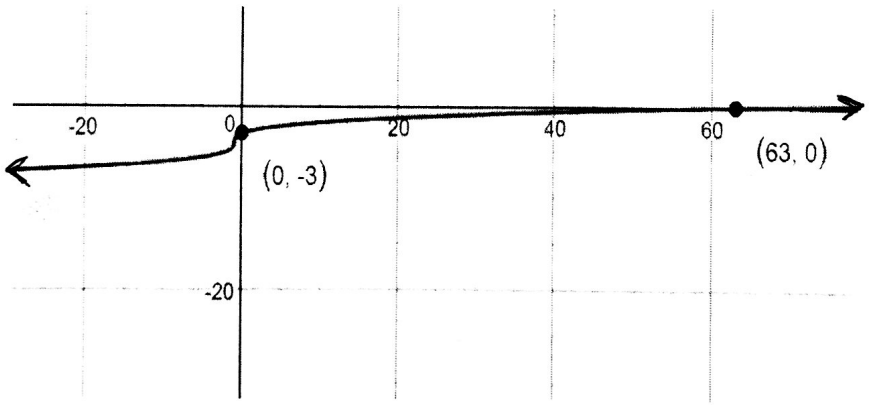
y-intercept: $(0, -2.828)$ Interval of Increase: N/A Interval of Decrease: $[-2, \infty)$

Absolute Maximum: $(-2, 0)$ Absolute Minimum: N/A

End Behavior: as x $\to \infty$, f(x) $\to -\infty$

as x $\to -2$, f(x) $\to 0$

4.) $f(x) = \sqrt[3]{x+1} - 4$




Domain: $\mathbb{R}$ Range: $\mathbb{R}$ x-intercept: $(63, 0)$

y-intercept: $(0, -3)$ Interval of Increase: $(-\infty, \infty)$ Interval of Decrease: N/A

Absolute Maximum: N/A Absolute Minimum: N/A

End Behavior: as x $\to \infty$, f(x) $\to \infty$

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