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Date _____
Algebra II

Graphing Square and Cube Root Functions

For the following equations, graph the equation, state the domain, range, and end behavior.

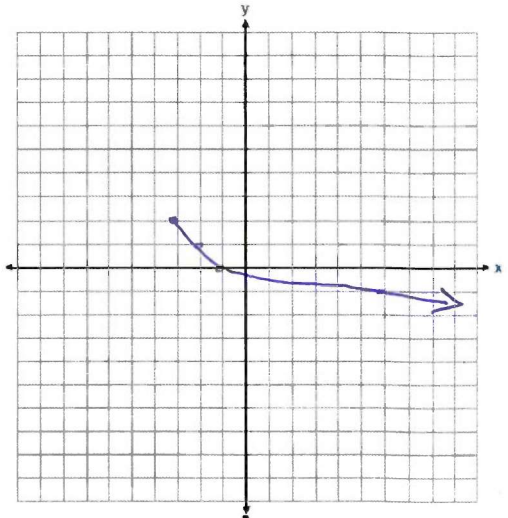
1. $f(x) = 2 - \sqrt{x+3}$

Domain: $[-3, \infty)$

Range: $(-\infty, 2]$

End Behavior:
$x \to -3, f(x) \to 2$
$x \to \infty, f(x) \to -\infty$

x	y
-3	2
-2	1
1	0
6	-1



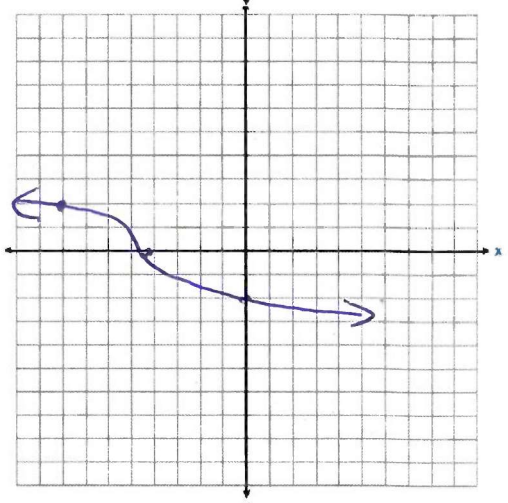
2. $f(x) = -\sqrt[3]{2x+8}$

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

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

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

x	y
-8	2
-4	0
0	-2



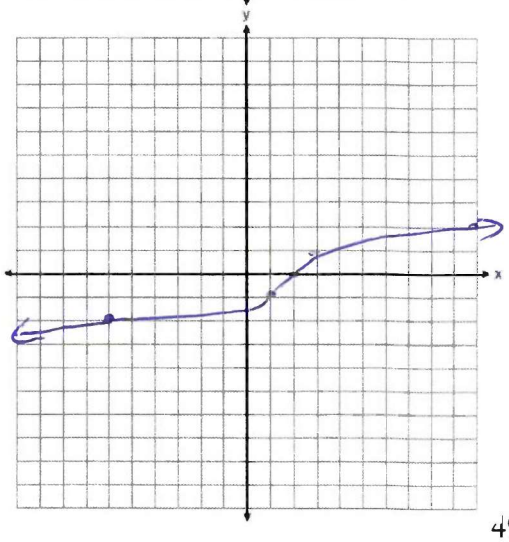
3. $y = \sqrt[3]{x-2}$

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

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

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

x	y
-6	-2
1	-1
2	0
3	1
10	2



4. $y = \sqrt{x} - 1$

Domain: $[0, \infty)$

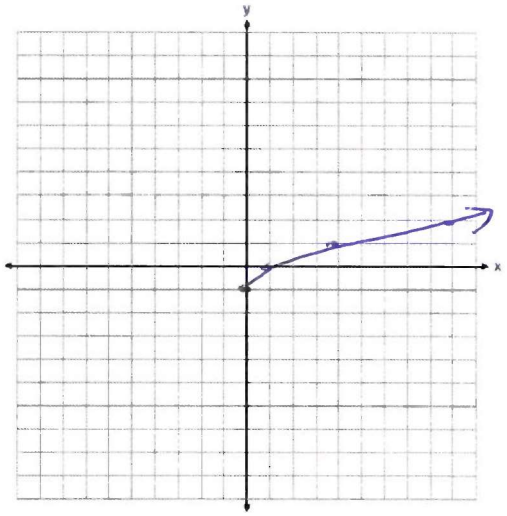
Range: $[-1, \infty)$

End Behavior:

$x \to 0, f(x) \to -1$

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

x	y
0	-1
1	0
4	1
9	2



5. $y = -2\sqrt{x-2}$

Domain: $[2, \infty)$

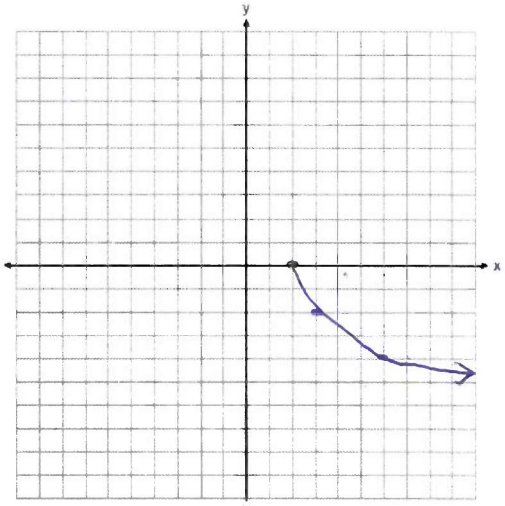
Range: $(-\infty, 0]$

End Behavior:

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

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

x	y
2	0
3	-2
6	-4



6. $y = 2 - \sqrt[3]{x+5}$

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

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

End Behavior:

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

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

x	y
-6	3
-5	2
-4	1
3	0