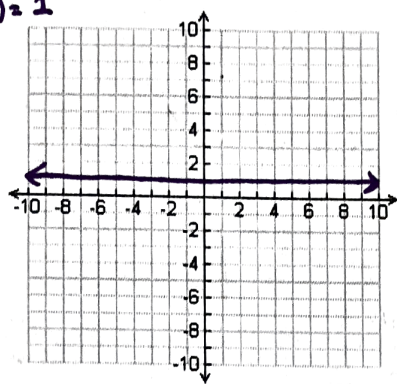


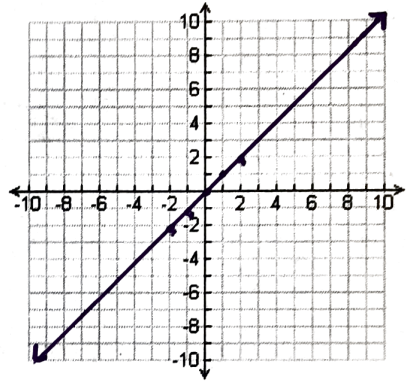
Parent Functions Reference Sheet

1) $f(x) = a \rightarrow a$ constant
 $f(x) = 1$



2) $f(x) = x$

x	f(x)
-2	-2
-1	-1
0	0
1	1
2	2



Name: Constant Function

Domain: Set- Builder Notation: $\{x | x \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

Range: Set- Builder Notation: $\{y | y = 1\}$

Interval Notation: $y = 1$

End Behavior: As $x \rightarrow \infty, f(x) \rightarrow 1$
 As $x \rightarrow -\infty, f(x) \rightarrow 1$

Name: LINEAR FUNCTION

Domain: Set- Builder Notation: $\{x | x \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

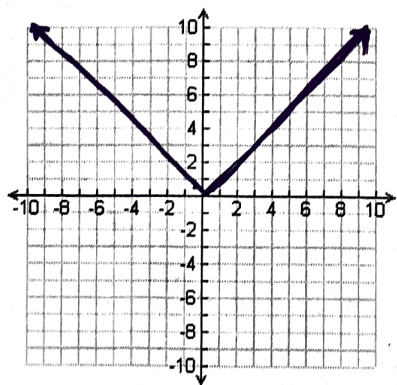
Range: Set- Builder Notation: $\{y | y \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

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

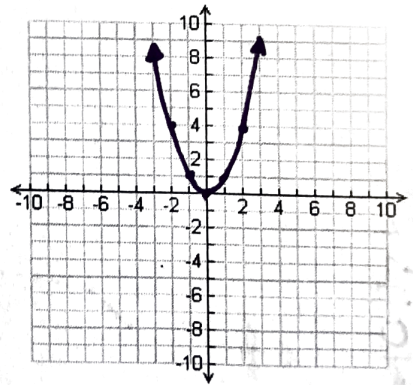
3) $f(x) = |x|$

x	f(x)
-2	2
-1	1
0	0
1	1
2	2



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

x	f(x)
-2	4
-1	1
0	0
1	1
2	4



Name: ABSOLUTE VALUE FUNCTION

Domain: Set- Builder Notation: $\{x | x \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

Range: Set- Builder Notation: $\{y | y \geq 0\}$

Interval Notation: $[0, \infty)$

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

Name: QUADRATIC FUNCTION

Domain: Set- Builder Notation: $\{x | x \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

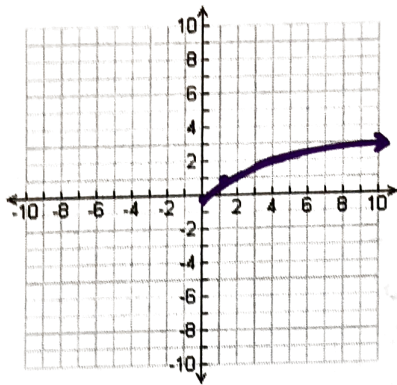
Range: Set- Builder Notation: $\{y | y \geq 0\}$

Interval Notation: $[0, \infty)$

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

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

x	f(x)
0	0
1	1
4	2
16	4
25	5



Name: SQUARE ROOT FUNCTION

Domain: Set- Builder Notation: $\{x | x \geq 0\}$

Interval Notation: $[0, \infty)$

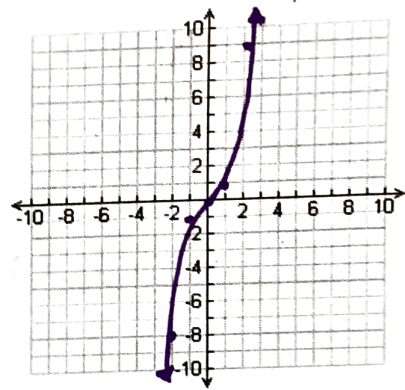
Range: Set- Builder Notation: $\{y | y \geq 0\}$

Interval Notation: $[0, \infty)$

End Behavior: As $x \rightarrow \infty, f(x) \rightarrow \infty$

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

x	f(x)
-2	-8
-1	-1
0	0
1	1
2	8



Name: CUBIC FUNCTION

Domain: Set- Builder Notation: $\{x | x \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

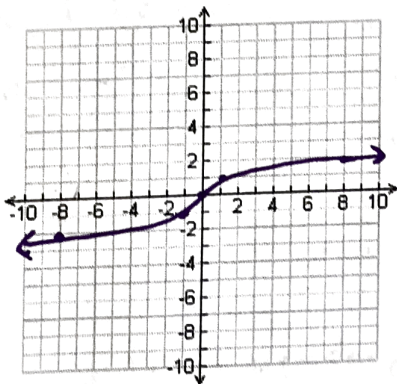
Range: Set- Builder Notation: $\{y | y \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

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

7) $f(x) = \sqrt[3]{x}$

x	f(x)
-8	-2
-1	-1
0	0
1	1
8	2



Name: CUBE ROOT FUNCTION

Domain: Set- Builder Notation: $\{x | x \in \mathbb{R}\}$

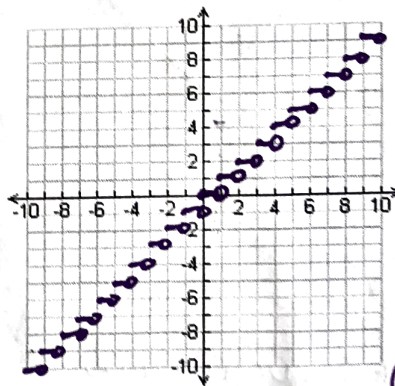
Interval Notation: $(-\infty, \infty)$

Range: Set- Builder Notation: $\{y | y \in \mathbb{R}\}$

Interval Notation: $(-\infty, \infty)$

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

8) $f(x) = [x]$



$$\begin{array}{r|l} & 0 \\ \hline 2 & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{array}$$

Name: Greatest Integer Function

Domain: all real #s $\{x | x \in \mathbb{R}\}$

Range: all integers $\{y | y \in \mathbb{Z}\}$

"Output is the greatest integer less than or equal to the input"