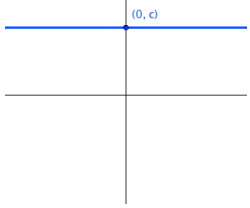
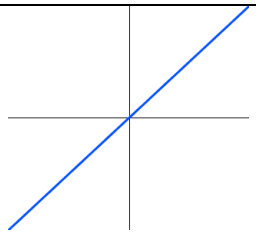
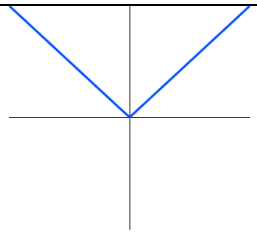
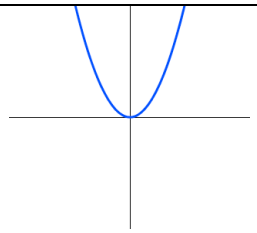
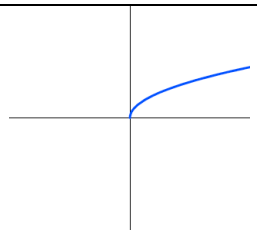
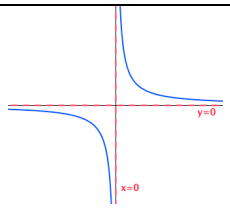
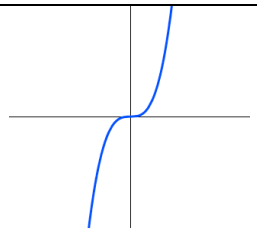
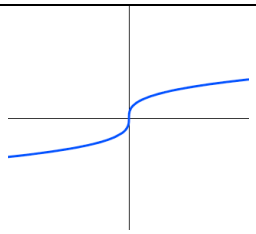
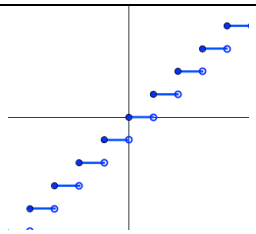
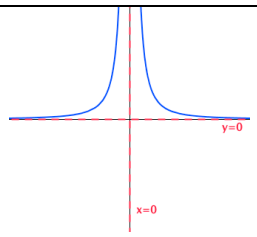
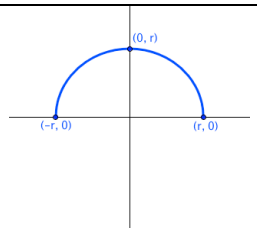
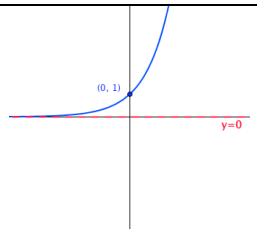
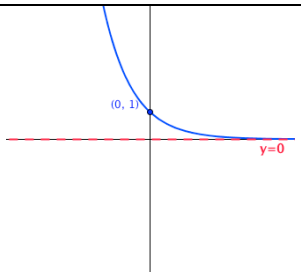
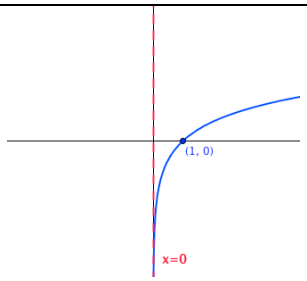
Library of Functions ANSWERS

	Function	Graph	Domain (Set)	Domain (Int)	Range (Set)	Range (Int)
1	Constant $f(x)=c$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y=c\}$	N/A
2	Identity $f(x)=x$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y\in R\}$	$(-\infty,\infty)$
3	Absolute Value $f(x)=\|x\|$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y\geq 0\}$	$[0,\infty)$
4	Quadratic $f(x)=x^2$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y\geq 0\}$	$[0,\infty)$
5	Square Root $f(x)=\sqrt{x}$		$\{x\|x\geq 0\}$	$[0,\infty)$	$\{y\|y\geq 0\}$	$[0,\infty)$
6	Reciprocal $f(x)=\frac{1}{x}$		$\{x\|x\neq 0\}$	$(-\infty,0)\cup(0,\infty)$	$\{y\|y\neq 0\}$	$(-\infty,0)\cup(0,\infty)$
7	Cubic $f(x)=x^3$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y\in R\}$	$(-\infty,\infty)$
8	Cube Root $f(x)=\sqrt[3]{x}$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y\in R\}$	$(-\infty,\infty)$

9	Greatest Integer $f(x)=[x]$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y\in Z\}$	N/A
10	Reciprocal of a Square $f(x)=\frac{1}{x^2}$		$\{x\|x\neq 0\}$	$(-\infty,0)\cup(0,\infty)$	$\{y\|y>0\}$	$(0,\infty)$
11	Semicircle $f(x)=\sqrt{r^2-x^2}$		$\{x\|-r\le x\le r\}$	$[-r,r]$	$\{y\|0\le y\le r\}$	$[0,r]$
12	Exponential Growth $f(x)=(b)^x$ $b>1$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y>0\}$	$(0,\infty)$
13	Exponential Decay $f(x)=(b)^x$ $0<b<1$		$\{x\|x\in R\}$	$(-\infty,\infty)$	$\{y\|y>0\}$	$(0,\infty)$
14	Natural Logarithm $f(x)=\ln x$		$\{x\|x>0\}$	$(0,\infty)$	$\{y\|y\in R\}$	$(-\infty,\infty)$