Also find

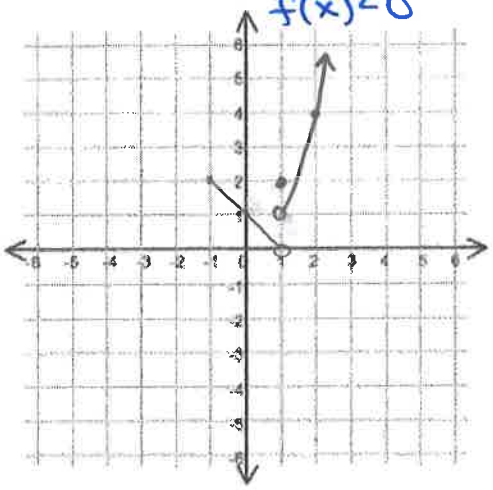
D
R
I
D
f(x)>0
f(x)<0

# Piecewise Functions Worksheet #3

Graph the given piecewise function.

**1**

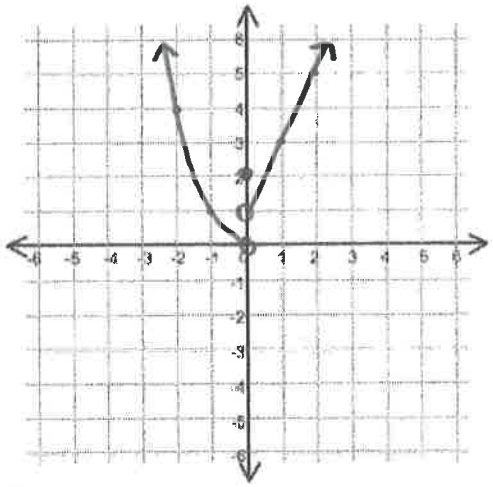
$$f(x)=\begin{cases}-x+1, & -1\le x<1\\ 2, & x=1\\ x^2, & x>1\end{cases}$$



Domain: $x\in[-1,\infty)$
Range: $y\in(0,\infty)$
Inc: $x\in(1,\infty)$
Dec: $x\in(-1,1)$
Pos.: $x\in[1,\infty)$
Neg. never

**2**

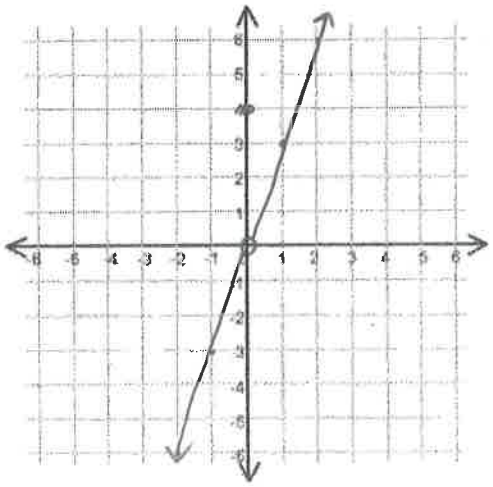
$$f(x)=\begin{cases}x^2, & x<0\\ 2, & x=0\\ 2x+1, & x>0\end{cases}$$



D: $x\in\mathbb{R}$
R $y\in(0,\infty)$
I: $x\in(0,\infty)$
D: $x\in(-\infty,0)$
P: $x\in(-\infty,\infty)$
N: Never

**3**

$$f(x)=\begin{cases}3x, & x\neq 0\\ 4, & x=0\end{cases}$$



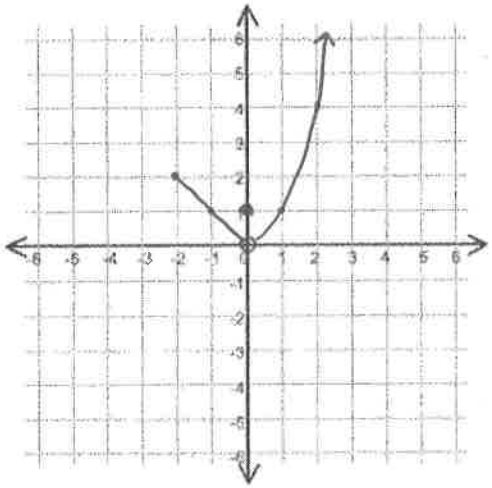
D: $x\in\mathbb{R}$
R: $y\in(-\infty,0)\cup(0,\infty)$
I: $x\in(-\infty,0)\cup(0,\infty)$
D: never
P: $x\in(0,\infty)$
N: $x\in(-\infty,0)$

# Piecewise Functions
# Worksheet #4

Graph the given piecewise function.

**4**

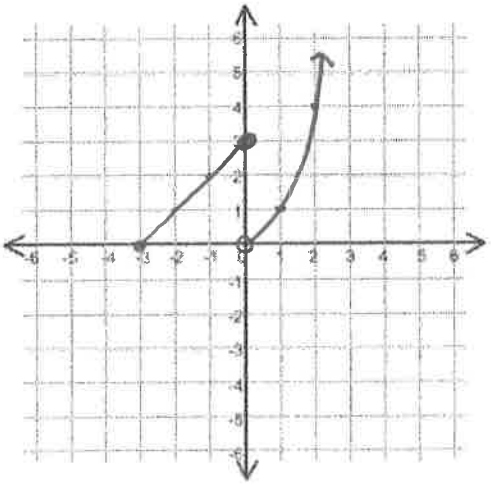
$$f(x)=\begin{cases}|x|, & -2\le x<0\\ 1, & x=0\\ x^2, & x>0\end{cases}$$



D: $x\in(-2,\infty)$
R $y\in[0,\infty)$
I: $x\in(0,\infty)$
D: $x\in(-2,0)$
P $x\in[-2,\infty)$
N: never

**5**

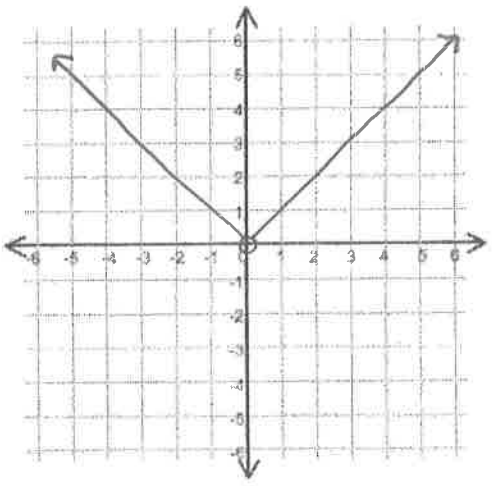
$$f(x)=\begin{cases}3+x, & -3\le x<0\\ 3, & x=0\\ \sqrt{x}, & x>0\end{cases}$$



D: $x\in[-3,\infty)$ $x^2$
R: $y\in[0,\infty)$
I: $x\in(-3,0)\cup(0,\infty)$
D: never
P: $x\in(-3,\infty)$
N: never

**6**

$$f(x)=\begin{cases}x, & x>0\\ -x, & x<0\end{cases}$$



D: $x\in(-\infty,0)\cup(0,\infty)$
R: $y\in(0,\infty)$
I: $x\in(0,\infty)$
D: $x\in(-\infty,0)$
P: $x\in(-\infty,0)\cup(0,\infty)$
N: never