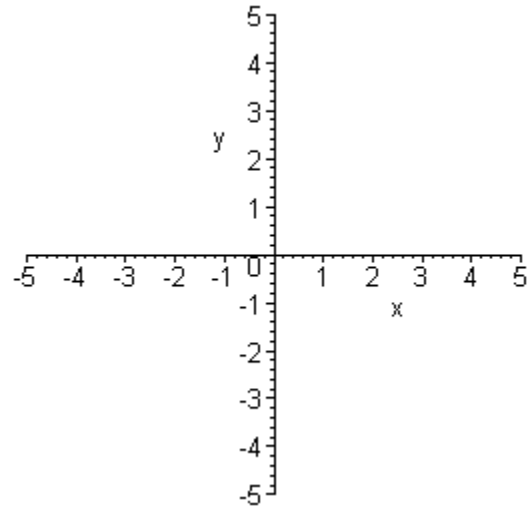
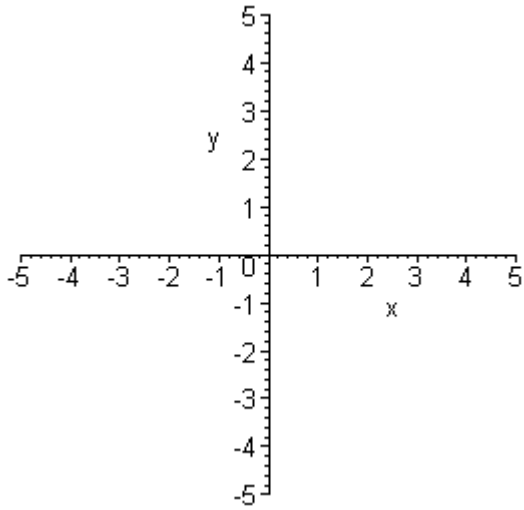
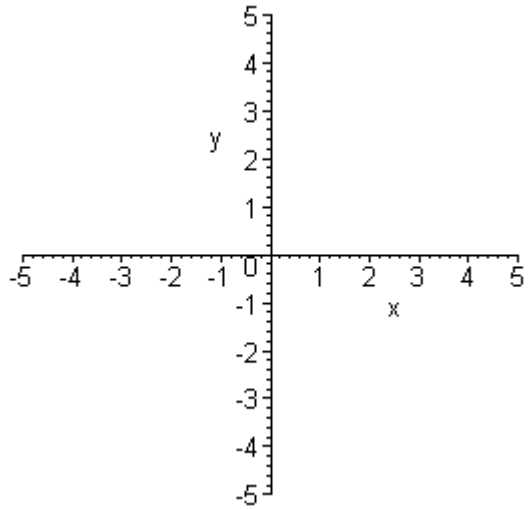


## Graphs of Common Functions

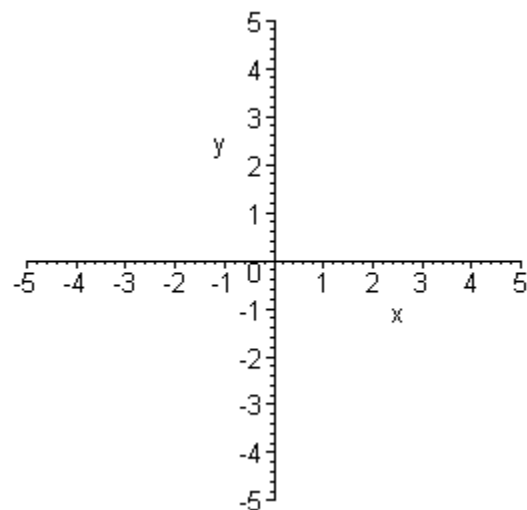
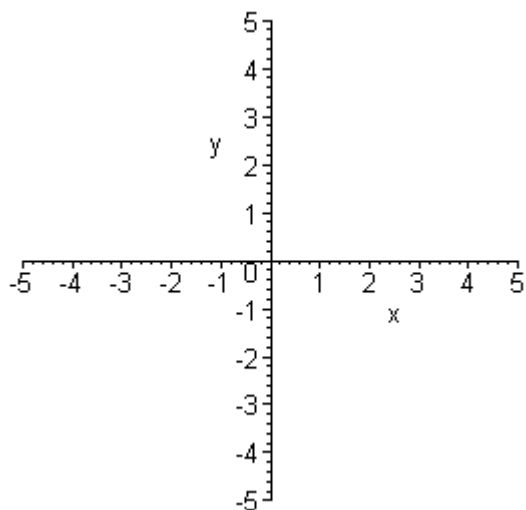
Use the axes provided and draw the graph of the function  
 $f(x) = x^2$  and  $g(x) = x^3$



Use the axes provided and draw the graph of the function  
 $h(x) = \frac{x^3}{4}$

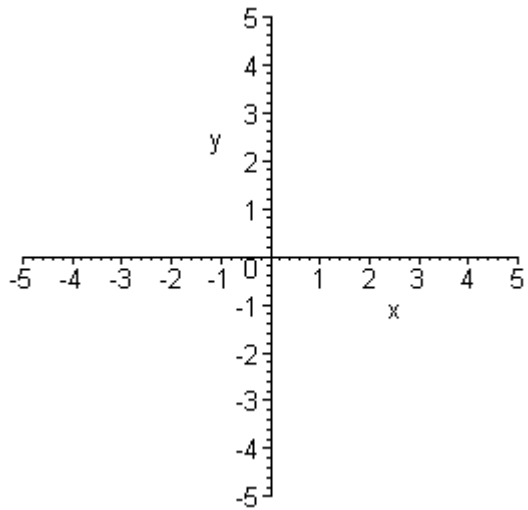


Use the axes provided and draw the graph of the function  
 $f(x) = \frac{1}{x}$  and  $g(x) = \frac{1}{x^2}$

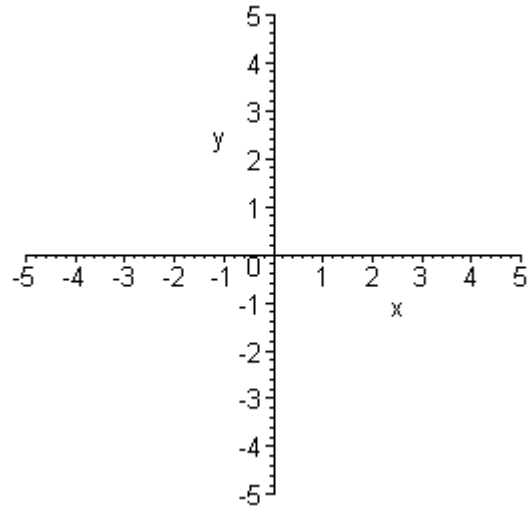
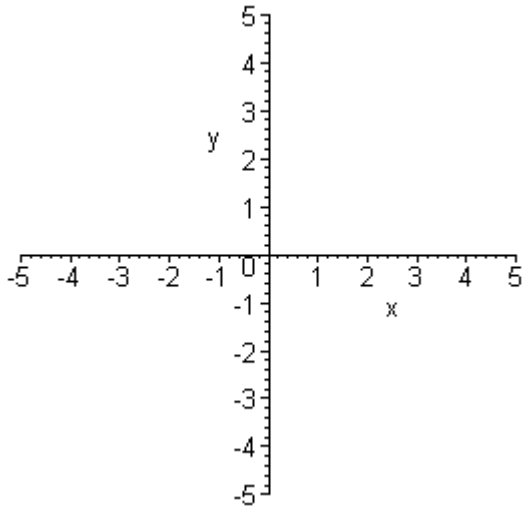


Use the axes provided and draw the graph of the function

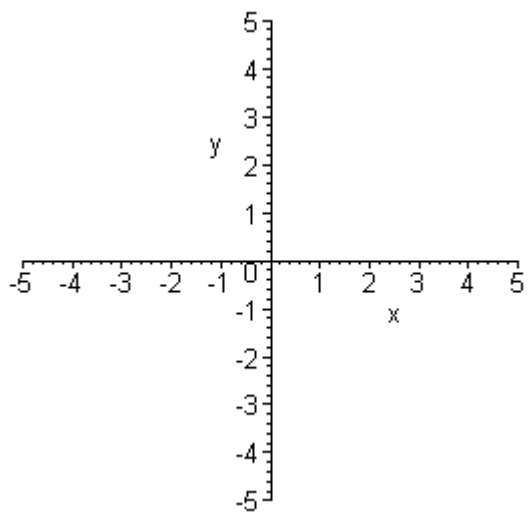
$$h(x) = -\frac{3}{x^2}$$



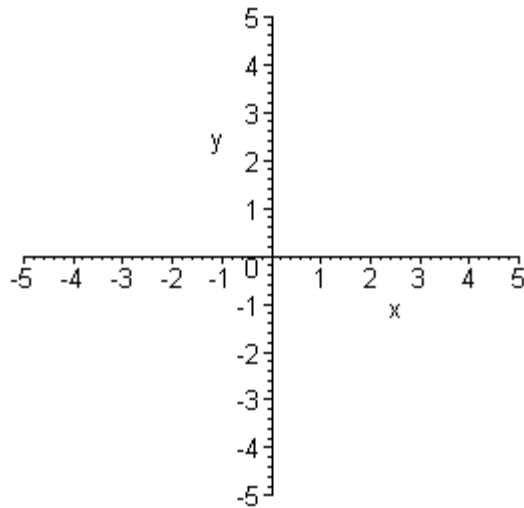
Use the axes provided and draw the graph of the functions  
 $f(x) = \sqrt{x}$  and  $g(x) = \sqrt[3]{x}$



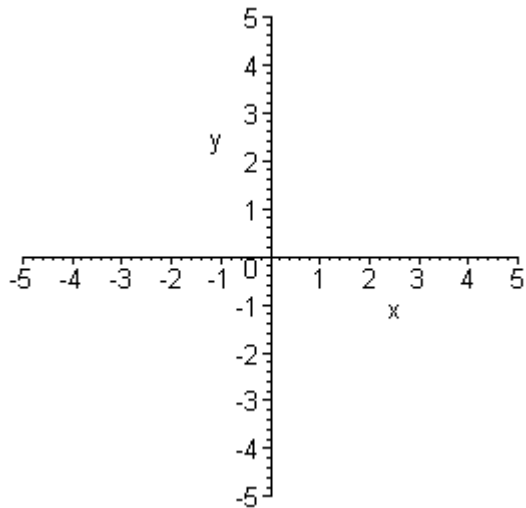
Use the axes provided and draw the graph of the function  
 $g(x) = 2\sqrt[4]{x}$



Use the axis provided and draw the graph of the function  $f(x) = |x|$ .



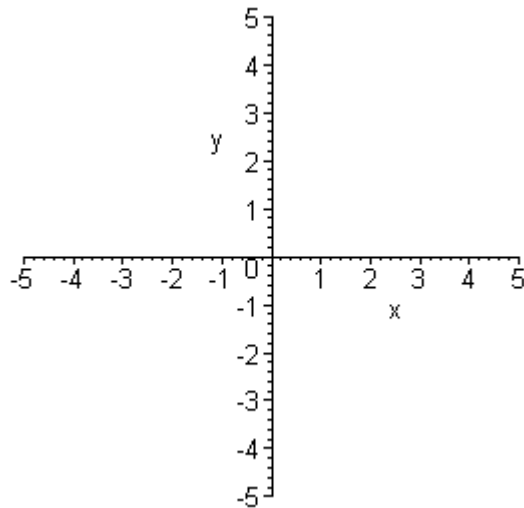
Use the axes provided and draw the graph of the function  $g(x) = -\frac{|x|}{2}$ .



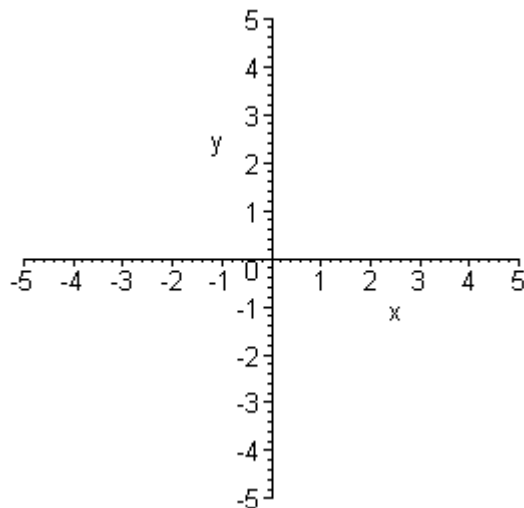
The **greatest integer function**,  $f(x) = \lfloor x \rfloor$ , where  $\lfloor x \rfloor$  is the largest integer that is less than or equal to  $x$ .

Examples:  $\lfloor 2 \rfloor = 2$  ,  $\lfloor 2.32 \rfloor = 2$  ,  $\lfloor -2.11 \rfloor = -3$

Use the axis provided and draw the graph of the function  $f(x) = \lfloor x \rfloor$ .



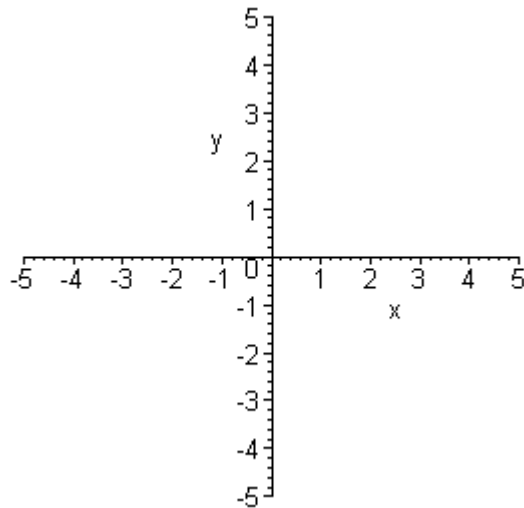
Use the axes provided and draw the graph of the function  $g(x) = \lfloor 3x \rfloor$





A **piecewise-defined function**, (Also called a conditional function) is a function defined in terms of two or more formulas, each valid for its own unique portion of the real number line.

Example: Let  $f(x) = \begin{cases} 2x + 3 & \text{if } x < 0 \\ \sqrt{x} & \text{if } x \geq 0 \end{cases}$



Use a graphing calculator to graph the function  $f(x) = \sqrt{x} + 2x - 1$  and copy the graph onto the axis that you see below. Plot three different points by hand to aid in your

