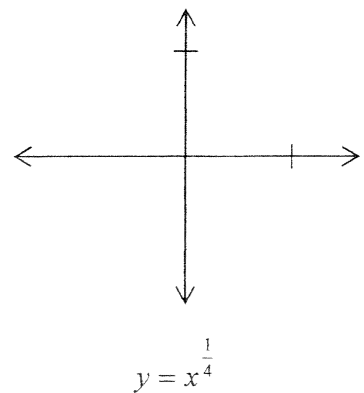
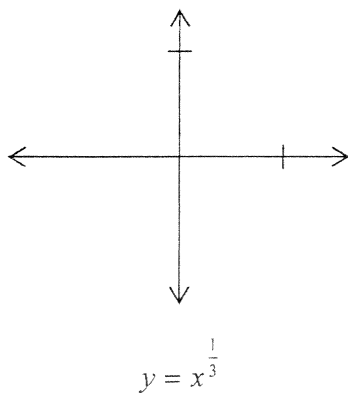
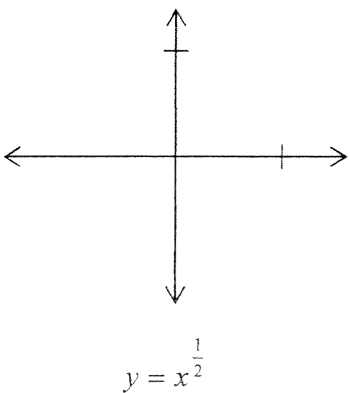
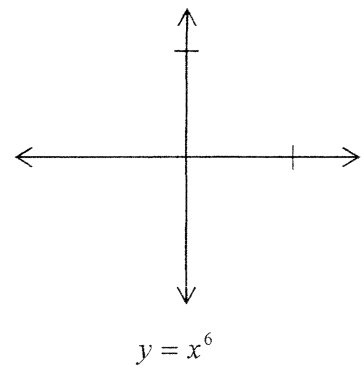
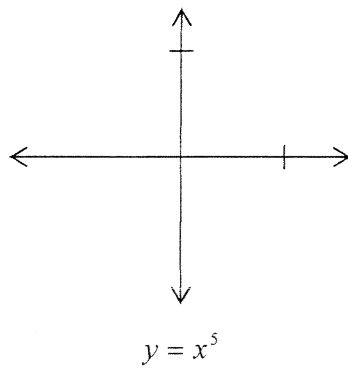
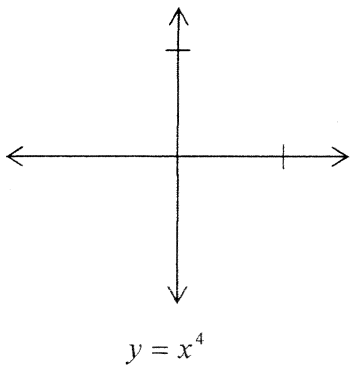
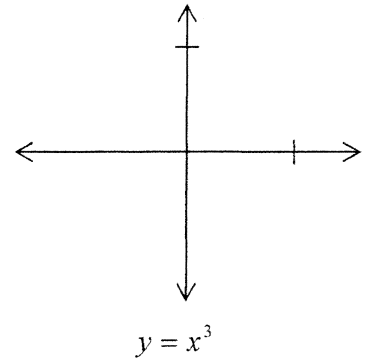
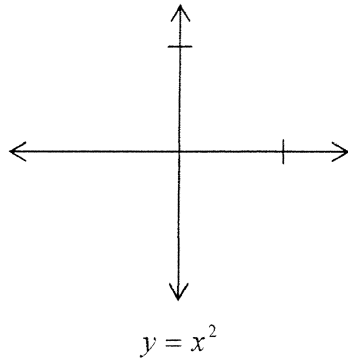
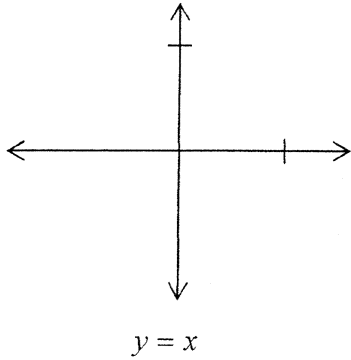
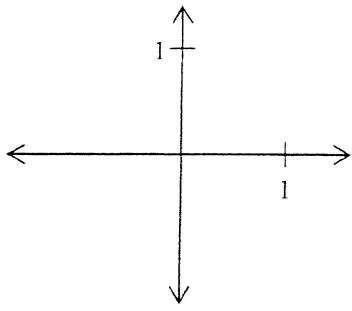


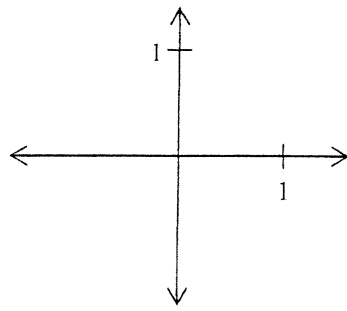
## GRAPHS OF BASIC FUNCTIONS

There are several basic functions whose graphs you should know/recognize quickly. Give a quick sketch of each of the following functions. Be sure to be accurate in terms of increasing/decreasing, concavity (does it “smile” or “frown”), intercepts and domains. Indicate asymptotes if appropriate.

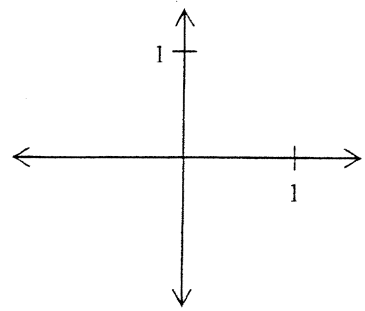




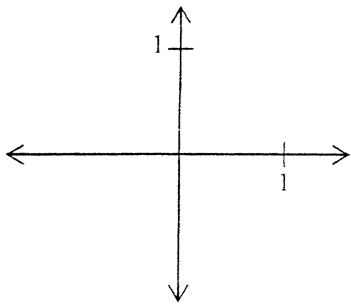
$$y = x^{-1}$$



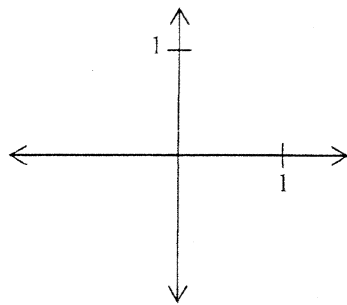
$$y = x^{-2}$$



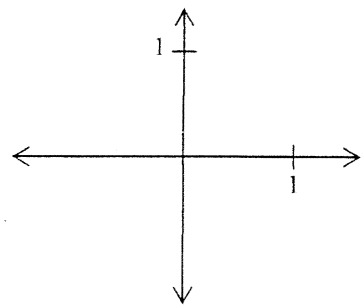
$$y = x^{-3}$$



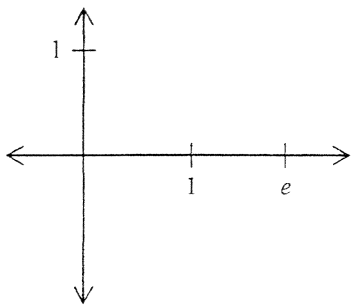
$$y = x^{-\frac{1}{2}}$$



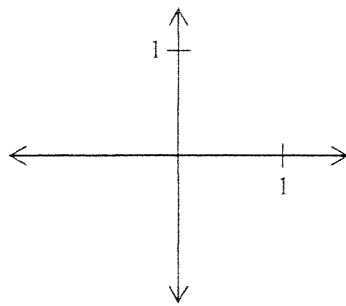
$$y = x^{-\frac{1}{3}}$$



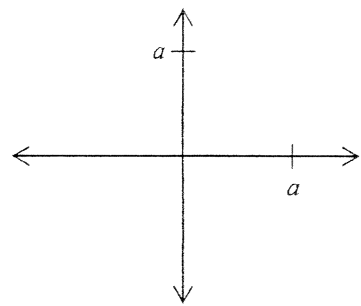
$$y = x^{-\frac{1}{4}}$$



$$y = \ln x$$

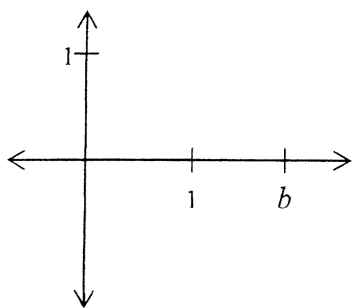


$$y = e^x$$

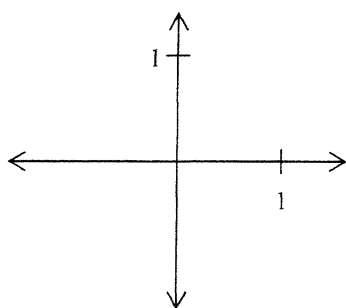


$$y = \sqrt{a^2 - x^2}$$

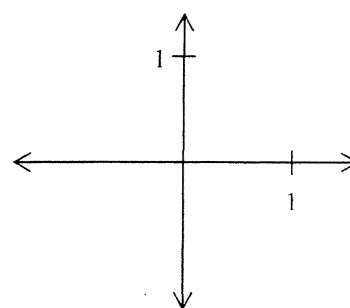
where  $a$  is a positive constant



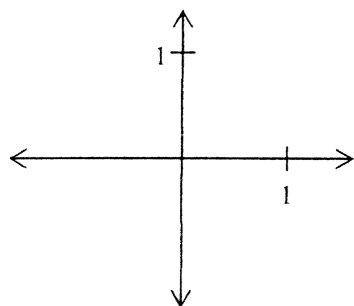
$y = \log_b x$   
 where  $b$  is a positive constant



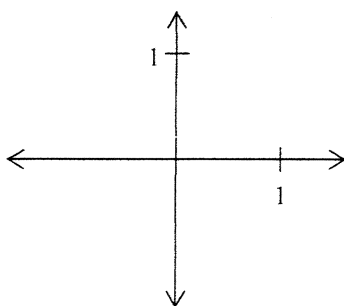
$y = 2^x$



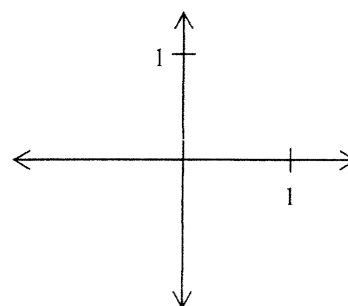
$y = 2^{-x}$



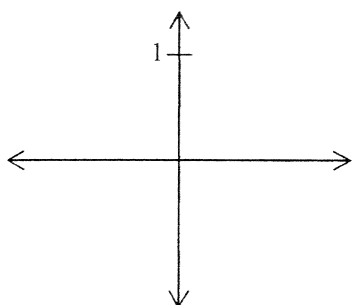
$y = \left(\frac{1}{3}\right)^x$



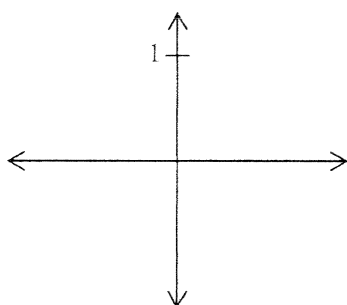
$y = \left(\frac{1}{3}\right)^{-x}$



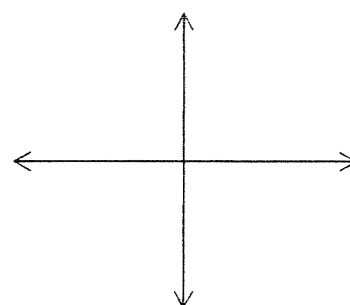
$y = -3^x$



$y = \sin x$



$y = \cos x$



$y = \tan x$

