

## AA PREP—INTRODUCTION TO LOGARITHMS LECTURE

**EX 1:** Solve for  $x$ .

a)  $2^x = 16$

b)  $\left(\frac{1}{2}\right)^x = 8$

c)  $\left(\frac{1}{8}\right)^{x+1} = 32^{-2x}$

d)  $2^x = 20$

**EX 2:** Write the exponential equation in logarithmic form.

a)  $2^{-5} = \frac{1}{32}$

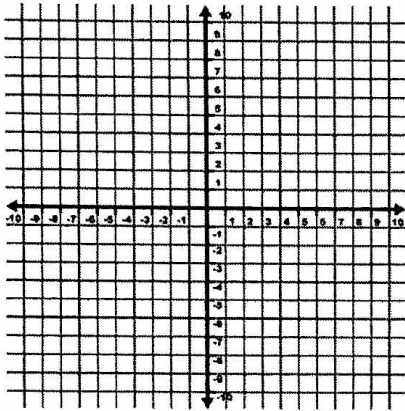
b)  $1 = 4^0$

**EX 3:** Write the logarithmic equation in exponential form.

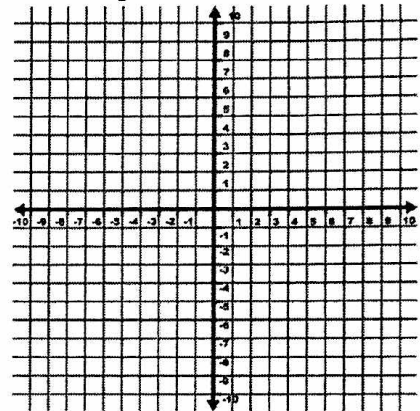
a)  $\log_3 81 = 4$

b)  $\frac{1}{2} = \log_{16} 4$

**EX 4:** Graph  $y = 2^x$  and its inverse.



**EX 5:** Graph  $y = \log_2 x$



**EX 6:** Evaluate.

a) $\log_6 6$	b) $\log_6 1$
c) $\log_6 \frac{1}{36}$	d) $\log_{36} 6$

**EX 7:** Solve for  $x$ .

a) $\log_{49} x = \frac{1}{2}$	b) $\log_{64} 16 = x$
c) $\log_x 8 = 3$	d) $\log_{25} \frac{1}{125} = x$