

AA PREP—INTRODUCTION TO LOGARITHMS—WORKSHEET 1

1. Solve for x .

a) $4^x = 16$

b) $\left(\frac{1}{4}\right)^x = 64$

c) $\left(\frac{1}{64}\right)^{x-2} = 16^{-4x}$

d) $4^x = 50$ (estimate)

2. Write the exponential equation in logarithmic form.

a) $4^{-3} = \frac{1}{64}$

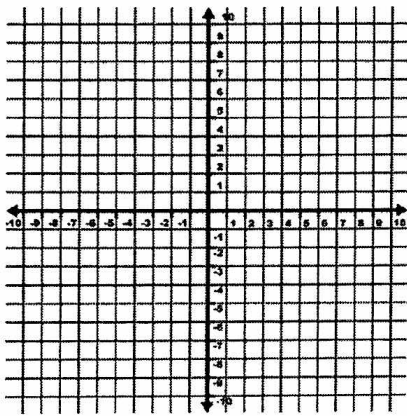
b) $2 = 4^{\frac{1}{2}}$

3. Write the logarithmic equation in exponential form.

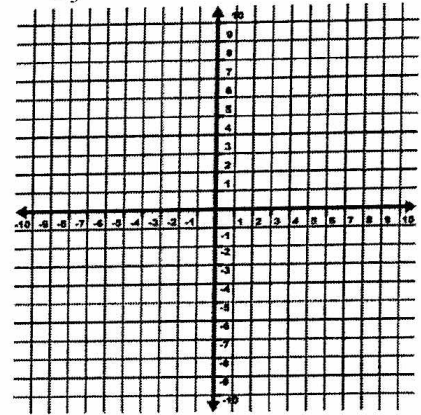
a) $\log_7 1 = 0$

b) $\frac{1}{3} = \log_{27} 3$

4. Graph $y = 3^x$.



5. Graph $y = \log_3 x$.



6. Evaluate.

a) $\log_5 1$

b) $\log_5 5$

c) $\log_{25} 5$

d) $\log_5 \frac{1}{125}$

7. Solve for x .

a) $\log_{27} x = -\frac{1}{3}$

b) $\log_{16} 64 = x$

c) $\log_x 4 = \frac{1}{2}$

d) $\log_8 \frac{1}{4} = x$