

pg. 376 #3, 7-10, 15-16, 27, 28

3.  $\log_b u = \log_b v$  set  $u = v$  and solve

7.  $10^{-x} = 0.0347$

$$\log_{10} 0.0347 = -x$$

$$x = 1.46$$

8.  $10^x = 14.3$

$$\log_{10} 14.3 = x$$

$$x = 1.16$$

9.  $10^{3x+1} = 92$

$$\log_{10} 92 = 3x+1$$

$$x = 0.321$$

10.  $10^{5x-2} = 348$

$$\log_{10} 348 = 5x-2$$

$$x = 0.908$$

15.  $2^3 2^{-x} = 0.426$

$$2^{3-x} = 0.426$$

$$\log_2 0.426 = 3-x \quad \text{type in } \frac{\log 0.426}{\log 2}$$

$$x = 4.23$$

16.  $3^4 3^{-x} = 0.089$

$$3^{4-x} = 0.089$$

$$\log_3 0.089 = 4-x$$

$$x = 6.20$$

$$27. \quad 2 = 1.05^x$$

$$\log_{1.05} 2 = x$$

$$x = 14.2$$

$$28. \quad 3 = 1.06^x$$

$$\log_{1.06} 3 = x$$

$$x = 18.9$$