

## HW 3 - Solving Equations

Solve each equation. Round to four decimal places if necessary.

1)  $2^{2x} = 4$

2)  $5^{-k} = 5^{3k-1}$

3)  $\log_{20}(4x - 6) = \log_{20}(2x + 10)$

4)  $\log_{17}(4a + 1) = \log_{17}(a^2 - 11)$

5)  $-7\log_{11}(p + 6) = 7$

6)  $3.9 \cdot 2^{9-8p} = 91$

7)  $\log_8(x + 30) + \log_8 x = 2$

8)  $\log_6 x - \log_6(x - 4) = 1$

9)  $\log_3 5 - \log_3 -5x = 2$

10)  $625^{-2x} = 25^{2x}$

$$11) 5 - 6\log_4 r = -19$$

$$12) \log_{12} (4x - 10) = 1$$

$$13) 8 \cdot 20^{x-8} = 1$$

$$14) 8 \cdot 2^{-9k-9} = 84$$

$$15) \log_{14} (m^2 - 51) = \log_{14} (-3m + 3)$$

$$16) \log x = 2$$

$$17) \log (x^2 - 10) - \log 6 = \log 9$$

$$18) \log_9 10 + \log_9 (x + 2) = 2$$

$$19) \log_5 -x - \log_5 2 = 2$$

$$20) 16^{2p+3} = \frac{1}{32}$$