

**I. Solve each exponential equation. Keep answers as fraction. You must show ALL of YOUR WORK to RECEIVE CREDIT!!**

1.) $5^{-2x-1} = 5^{2-x}$  $\{-3\}$	2.) $6^{2x} = 6^{-2x-2}$  $\{-1/2\}$	3.) $2^{2x-3} = 2^{1-x}$  $\{4/3\}$	4.) $4^{-1-x} = 4^{3x}$  $\{-1/4\}$
5.) $6^{3x} = 36$  $\{2/3\}$	6.) $2^{-2x-2} = \frac{1}{4}$  $\{0\}$	7.) $\left(\frac{1}{16}\right)^{3x} = 64^{-2x}$  All REAL #'s	8.) $3^{3x} = 27$  $\{1\}$
9.) $64^{1-2x} = 16^{-2x}$  $\{3/2\}$	10.) $4^{2-4x} = 64$  $\{-1/4\}$	11.) $5 = 125^{2x+1}$  $\{-1/3\}$	12.) $36^{3x+2} = \left(\frac{1}{6}\right)^{-2x}$  $\{-1\}$
13.) $\left(\frac{1}{32}\right)^{2x-6} = 16^{x+5}$  $\{5/7\}$	14.) $9^{4x-3} = \sqrt{27}$  $\{15/16\}$	15.) $2^{2x-6} = 16$  $\{5\}$	16.) $5^{2-5x} + 5 = 130$  $\{-1/5\}$