Log Problems Name ____________________________

1 – 8. Solve for x:

_____ 1. $\log_9 x = -\frac{3}{2}$

_____ 2. $\log_2 (2x-1) + \log_2 x = \log_2 6$

_____ 3. $\log x = 2 - \log 5$

_____ 4. $2^{3x-2} = 4^x$

_____ 5. $\log_{12} 1.43 = x$ $5^x = 27.9$

_____ 6. $5^x = 27.9$

_____ 7. $\log_4 \left(\frac{1}{64}\right) = x$

_____ 8. $\log_x \left(\frac{1}{25}\right) = \frac{1}{2}$

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_____ 9. If $\log_8 M + \log_8 \left(\frac{1}{8}\right) = \frac{2}{3}$ Then $M =$

(A) 24 (B) 12 (C) 8 (D) 4 (E) 2

_____ 10. $\log_{\left(\frac{5}{8}\right)} 3 =$

_____ 11. If $8^x = 4$ and $5^{x+y} = 125$ Then determine the value of y.

_____ 12. Given $f(x) = 5^x$ Determine $f^{-1}(x)$