Math on the Fly!

NAME: _____ DATE: _____

Solving Logarithmic Equations

Solve each equation.

1. $\log(3x + 1) = 3$

2. $\log_5(x - 1) = 4$

3. $\log_{12}(7x - 6) = \log_{12}(4x + 9)$

4. $\log(x + 2) - \log(x) = 2$

5. $\log_3(x - 4) + \log_3 9 = 6$

6. $\log_7 x = \log_6 27 + \log_6 8$

7. $\log_X 16 + \log_X 32 - \log_X 2 = 2$

8. $(\log_{40} 40)^9 + (\log_{40} 1)^{10} = x - 1$

9. $$\frac{\log_4 2 + \log_4 32}{\log_2 24 - \log_2 3} = \log_7(x)$$

SOLUTIONS

1. $x = 333$

2. $x = 626$

3. $x = 5$

4. $x = \frac{2}{99}$

5. $x = 85$

6. $x = 343$

7. $x = 16$

8. $x = 2$

9. $x = 7$