

Math 29
In-class problems on logs

Solve the following equations for x .

1. $\log_2(x^2 + 1) + (\log_4(x^4 - x + 2))(\log_2(.5)) = 0$

2. $\log_x(5x + 6) = -4 (\log_2(.5/x) + \log_2(x\sqrt{2}))$

3. $\log_4(x) - \log_4(x - 1) = \frac{1}{2}$

4. $\log_2(x + 5) + \log_2(x + 2) = \log_2(x + 6)$

5. $\log(8x) - \log(1 + \sqrt{x}) = 2$

6. $\log_{2x}(2x + 2) - \frac{1}{2}\log_5\left(\frac{5}{x}\right) - 2\log_{25}(5\sqrt{x}) = \frac{1}{2}$

7. $\log_9(9x) = \log_3(x + 2)$