Alg 2 Hwk #11 Sec 6-5 Spring 2020 Name:

Answer the following questions from Sec 6-5 which I've copied below. (Problems 15, 17, 20, and 22 from page 331).

Use the properties of logarithms to expand each expression. See Example 2.

15. $\log_6(2m^5n^3)$

17. $log_2\left(\frac{x}{5y}\right)$

Use the properties of logarithms to write each expression as a single logarithm. See Example 3.

20. $2\log 10 + 4\log(3x)$

22. $8\log_3 2 + 5\log_3 c + 7\log_3 d$

Solve each equation. Round to the nearest hundredth. Show your work.

1. $\log_5 x - \log_5(x-3) = 2$

2. $2\log_2 x + \log_2 5x = 4$

3. $\log_6(x-5) + \log_6(x+4) = 2$