N: _____ D: _____ P: 0 1 2 3 4 5 6

Algebra 2 // Topic 6 // **Solving Logs D**

Rewrite the following expressions as a quotient of common logs.

1. $\log_5 20$
2. $\log_3 8$
3. $\log_4 7$

Expand the following expressions:

4. $\log 5x^6$
5. $\log a^6b^7c^3$
6. $\log_9 \frac{8c}{d}$
7. $\log \sqrt{xyz}$
8. $\log_3 \frac{7z^6}{k}$
9. $\log \sqrt[3]{2jk}$

Condense the following expressions:

10. $\log 8 - \log 6$
11. $\log 14 + \log a + \log b$
12. $5 \log a - \log b$
13. $\log_2 3 + 2\log_2 3 - \log_2 y$
14. $8 \log 3 + 4 \log d + 2 \log f$
15. $4(\log 3 + \log p)$
16. $15\log a - (\log 6 + 3\log b + 4\log c)$
17. $\log_3 5 + 6\log_3 x - \log_3 4$
18. $\frac{1}{2}\log_7 81 - \frac{1}{2}\log_7 49$
19. $2(\log 12 - \log 4) + \frac{1}{2}\log \frac{1}{9}$