Algebra 2 Name_____ ID: 1

Quiz Review

Date_____ Period____

Rewrite each equation in exponential form.

1) $\log_{14} \frac{1}{196} = -2$

2) $\log_{15} 225 = 2$

3) $\log_{5} 625 = 4$

4) $\log_{18} \frac{1}{324} = -2$

Rewrite each equation in logarithmic form.

5) $11^{-2} = \frac{1}{121}$

6) $12^{2} = 144$

7) $11^{2} = 121$

8) $19^{0} = 1$

Expand each logarithm.

9) $\log_{7} \left(w\sqrt{uv}\right)$

10) $\log_{2} \left(x^{2} \cdot y\right)^{6}$

11) $\log_{7} \left(w^{2}\sqrt{u}\right)$

12) $\log_{7} \frac{x^{3}}{y^{4}}$

Condense each expression to a single logarithm.

13) $\log_{2} z + \frac{1}{3} \cdot \log_{2} x + \frac{1}{3} \cdot \log_{2} y$

14) $24 \log_{4} a - 6 \log_{4} b$

15) $6 \log_{7} z + \frac{1}{2} \cdot \log_{7} x$

16) $4 \log_{5} c + \frac{1}{3} \cdot \log_{5} a$

Evaluate each expression.

17) $\log_{8} 4$

18) $\log_{2} \frac{1}{4}$

19) $\ln 38$

20) $\log 32$