Quiz 2 Review

Date_____ Period____

Solve each equation. Round your answer to the nearest ten-thousandth.

1) $\frac{3^{2a}}{3^{3-2a}} = \frac{1}{9}$

2) $\frac{125^{2x}}{25^{2x-3}} = 125$

3) $6^{x-1} \cdot 6^{3x+3} = \frac{1}{36}$

4) $10^{10p} - 1 = 93$

5) $-6 \cdot 17^{-7k} = -5$

6) $5 \cdot 10^{n+3} = 85$

Simplify. Your answer should contain only positive exponents.

7) $\frac{x^{\frac{5}{3}} y^{-\frac{5}{4}} \cdot y}{\left(x^2 y^{-\frac{1}{3}}\right)^{-2}}$

8) $\frac{\left(x^{\frac{1}{3}} y^{\frac{3}{2}}\right)^{\frac{3}{2}}}{yx^{-2} \cdot x^{\frac{3}{2}} y^{-2}}$

9) $\frac{ab^{-2} \cdot \left(b^{-3}\right)^{-\frac{3}{2}}}{\left(b^{\frac{1}{2}}\right)^{\frac{3}{2}}}$

Solve each equation.

10) $\log_7 2x^2 - \log_7 2 = 2$

11) $\log_3 3x - \log_3 6 = 2$

12) $\log_6 3 + \log_6 -5x = 2$

Solve for x.

13) $12x^{-2} - 16x^{-1} + 5 = 0$

Expand each logarithm.

14) $\ln\left(5 \cdot 8 \cdot 11^3\right)$

15) $\log_6\left(a \cdot b \cdot c^2\right)$

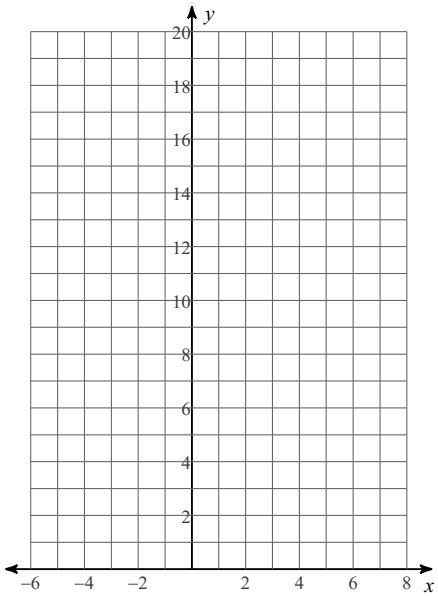
Condense each expression to a single logarithm.

16) $\log_2 u + \log_2 v + 6\log_2 w$

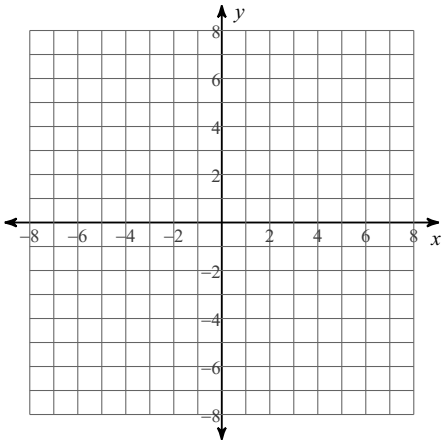
17) $18\log_4 x + 3\log_4 y$

Sketch the graph of each function. State the domain, range, asymptote, end behavior, x-int, and y-int.

18) $y = \frac{1}{2} \cdot 5^{x-1} + 1$



19) $y = \log\left(x + 1\right) + 1$



Answers to Quiz 2 Review

1) $\left\{\frac{1}{4}\right\}$

2) $\left\{-\frac{3}{2}\right\}$

3) $\{-1\}$

4) 0.1973

5) 0.0092

6) -1.7696

7) $\frac{y^{\frac{1}{12}}x^{\frac{17}{3}}}{y}$

8) $xy^{\frac{13}{4}}$

9) $ab^{\frac{7}{4}}$

10) $\{7, -7\}$

11) $\{18\}$

12) $\left\{-\frac{12}{5}\right\}$

13) x = 6/5 and x = 2

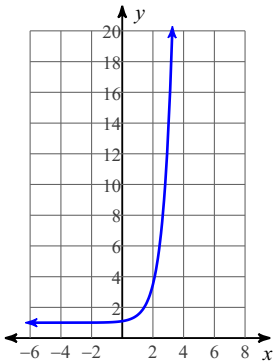
14) $\ln 5 + \ln 8 + 3\ln 11$

15) $\log_6 a + \log_6 b + 2\log_6 c$

16) $\log_2\left(vuw^6\right)$

17) $\log_4\left(y^3x^{18}\right)$

18)



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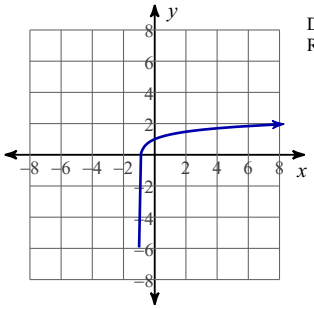

Domain: $x > -1$
Range: All reals