

Students taking Pre-Cal, Stat, Adv. Topics, College Readiness Name _____

Assignment 9: Exponential and Logarithmic Functions Date _____ Period _____

Solve each equation.

1) $6^{3-a} = 1$

2) $8^k = 32$

3) $4^{-2x} = 16$

4) $36^{-p} = 216^p$

5) $36^{-2n-2} = 216$

6) $3^{-3m-3} = 3^{3m}$

7) $2^{3r} = 2^{2r+2}$

8) $3^{3x} = 27$

9) $4^n = 32$

10) $243^b = 9^{2-b}$

Rewrite each equation in exponential form.

11) $\log_9 81 = 2$

12) $\log_2 4 = 2$

Rewrite each equation in logarithmic form.

13) $13^2 = 169$

14) $17^2 = 289$

Evaluate each expression.

15) $\log_7 343$

16) $\log_3 \frac{1}{27}$

17) $\log_3 81$

18) $\log_6 \frac{1}{216}$

Assignment 9: Exponential and Logarithmic Functions Date _____ Period _____

Solve each equation.

1) $6^{3-a} = 1$
 $\{3\}$

2) $8^k = 32$ $\left\{\frac{5}{3}\right\}$

3) $4^{-2x} = 16$
 $\{-1\}$

4) $36^{-p} = 216^p$
 $\{0\}$

5) $36^{-2n-2} = 216$ $\left\{-\frac{7}{4}\right\}$

6) $3^{-3m-3} = 3^{3m}$ $\left\{-\frac{1}{2}\right\}$

7) $2^{3r} = 2^{2r+2}$
 $\{2\}$

8) $3^{3x} = 27$
 $\{1\}$

9) $4^n = 32$ $\left\{\frac{5}{2}\right\}$

10) $243^b = 9^{2-b}$ $\left\{\frac{4}{7}\right\}$

Rewrite each equation in exponential form.

11) $\log_9 81 = 2$
 $9^2 = 81$

12) $\log_2 4 = 2$
 $2^2 = 4$

Rewrite each equation in logarithmic form.

13) $13^2 = 169$
 $\log_{13} 169 = 2$

14) $17^2 = 289$
 $\log_{17} 289 = 2$

Evaluate each expression.

15) $\log_7 343$
 3

16) $\log_3 \frac{1}{27}$
 -3

17) $\log_3 81$
 4

18) $\log_6 \frac{1}{216}$
 -3