Algebra 1 Name_____ ID: 1

Solving Exponential Equations

Date_____ Period____

Solve each equation.

1) $2^{k-1} = 16$

2) $6^{b-1} = 6^{-b-3}$

3) $5^{2x} = 625$

4) $3^{2n+2} = 3^{n-1}$

5) $2^{-m-3} = 2^{2m-3}$

6) $5^{2x+1} = 5^{2x}$

7) $243^{-3b} = 27$

8) $25^{2m+2} = 125^{2m}$

9) $216^{2x} = 6^2$

10) $36^{2-3n} = 6^3$

11) $16^{-2x} = 64$

12) $36^{2-3n} = 216^{2n}$

Algebra 1 Name_____ ID: 1

Solving Exponential Equations

Date_____ Period____

Solve each equation.

1) $2^{k-1} = 16$

$\{5\}$

2) $6^{b-1} = 6^{-b-3}$

$\{-1\}$

3) $5^{2x} = 625$

$\{2\}$

4) $3^{2n+2} = 3^{n-1}$

$\{-3\}$

5) $2^{-m-3} = 2^{2m-3}$

$\{0\}$

6) $5^{2x+1} = 5^{2x}$

No solution.

7) $243^{-3b} = 27$

$\left\{-\frac{1}{5}\right\}$

8) $25^{2m+2} = 125^{2m}$

$\{2\}$

9) $216^{2x} = 6^2$

$\left\{\frac{1}{3}\right\}$

10) $36^{2-3n} = 6^3$

$\left\{\frac{1}{6}\right\}$

11) $16^{-2x} = 64$

$\left\{-\frac{3}{4}\right\}$

12) $36^{2-3n} = 216^{2n}$

$\left\{\frac{1}{3}\right\}$