Name : _____ Score : _____

Teacher : _____ Date : _____

Exponential Equations Not Requiring Logarithms

Solve each given equation.

1) $729^{-3x+3} \cdot 9^{-2x} = 81$

2) $10^{3g-1} \cdot 10^{2g} = 10^{4g}$

3) $9^{4m+3} \cdot 3^{-2m} = 27$

4) $\left(\frac{1}{9}\right)^{-3n-2} \cdot 81^{2n} = \frac{1}{81}$

5) $7^{2w} \cdot 7^{-3w} = 49$

6) $2^{2x-3} \cdot 4 = 2^{-4x}$

7) $8^{-2q+2} = 64$

8) $\frac{3^{-2s}}{3^{-3s-2}} = 3^{-4s}$

9) $4^{3r-1} \cdot 4^{4r} = 4^{2r}$

10) $10^{2b} \cdot 10^{3b} = 100$

11) $7^{-2z+3} = 49$

12) $\left(\frac{1}{3}\right)^{3h+2} \cdot 27^{2h} = \frac{1}{27}$

13) $\frac{3^{-3k}}{3^{-4k+3}} = 3^{-4k}$

14) $8^{-3y} \cdot 8^{-4y} = \frac{1}{512}$

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Exponential Equations Not Requiring Logarithms

Solve each given equation.

1) $729^{-3x+3} \cdot 9^{-2x} = 81$

$\frac{7}{11}$

2) $10^{3g-1} \cdot 10^{2g} = 10^{4g}$

1

3) $9^{4m+3} \cdot 3^{-2m} = 27$

$\frac{1}{-2}$

4) $\left(\frac{1}{9}\right)^{-3n-2} \cdot 81^{2n} = \frac{1}{81}$

$\frac{-4}{7}$

5) $7^{2w} \cdot 7^{-3w} = 49$

-2

6) $2^{2x-3} \cdot 4 = 2^{-4x}$

$\frac{1}{6}$

7) $8^{-2q+2} = 64$

0

8) $\frac{3^{-2s}}{3^{-3s-2}} = 3^{-4s}$

$\frac{2}{-5}$

9) $4^{3r-1} \cdot 4^{4r} = 4^{2r}$

$\frac{1}{5}$

10) $10^{2b} \cdot 10^{3b} = 100$

$\frac{2}{5}$

11) $7^{-2z+3} = 49$

$\frac{1}{2}$

12) $\left(\frac{1}{3}\right)^{3h+2} \cdot 27^{2h} = \frac{1}{27}$

$\frac{1}{-3}$

13) $\frac{3^{-3k}}{3^{-4k+3}} = 3^{-4k}$

$\frac{3}{5}$

14) $8^{-3y} \cdot 8^{-4y} = \frac{1}{512}$

$\frac{3}{7}$