Math 3 Name_____

Solving Exponential Equations Without Logs

Date_____ Period____

Solve each equation.

1) $5^{a-3} = 5^{2a}$

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

3) $4^{2v} = 16^{v}$

4) $125^{2v} = 625^{v-1}$

5) $216^{x+3} = 36$

6) $16^{3p} = 64^{2p}$

7) $125^{3-3x} = 25^{-x}$

8) $16^{-3b} = \left(\frac{1}{32}\right)^{b}$

9) $\left(\frac{1}{625}\right)^{-x} = 125$

10) $4^{2b} = 1$

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1) $5^{a-3} = 5^{2a}$

{–3}

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

{–2}

3) $4^{2v} = 16^{v}$

{ All real numbers. }

4) $125^{2v} = 625^{v-1}$

{–2}

5) $216^{x+3} = 36$

$\left\{-\frac{7}{3}\right\}$

6) $16^{3p} = 64^{2p}$

{ All real numbers. }

7) $125^{3-3x} = 25^{-x}$

$\left\{\frac{9}{7}\right\}$

8) $16^{-3b} = \left(\frac{1}{32}\right)^{b}$

{0}

9) $\left(\frac{1}{625}\right)^{-x} = 125$

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

10) $4^{2b} = 1$

{0}