Name:

Date:

**Solving Exponential Equations Requiring Logarithms**

**Solve each equation.**

1) $32^{2x} = 8$

2) $2^{-2n} \cdot 2^{n+1} = 2^{-2n}$

3) $2^{-3x} = 2^{x-1}$

4) $5^{3n} = 125$

5) $(\frac{1}{6})^{n} = 36$

6) $243^{x} = 81$

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

8) $10^{3x} = 10000$

9) $6^{-3v-2} = 36$

10) $2^{2n} = 16$

**Answer Key - www.testinar.com**

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1) $32^{2x} = 8$

1

2) $2^{-2n} \cdot 2^{n+1} = 2^{-2n}$

$-1$

3) $2^{-3x} = 2^{x-1}$

$\frac{1}{4}$

4) $5^{3n} = 125$

1

5) $(\frac{1}{6})^{n} = 36$

83

6) $243^{x} = 81$

$\frac{1}{48}$

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

$-\frac{7}{10}$

8) $10^{3x} = 10000$

$\frac{4}{3}$

9) $6^{-3v-2} = 36$

95

10) $2^{2n} = 16$

2