Solving Exponential Equations with One to One Property Notes

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Exponential equations** are equations in which variable expressions occur as exponents.

**Logarithmic equations** are equations that involve logarithms of variable expressions.

**Solve by equating exponents**

**Ex. 1:** $3^{x}=3^{2x-4}$ **Ex. 2:** $8^{x}=4^{x+1}$ **Ex. 3:** $\frac{1}{5}^{x}=25^{x+2}$

**YOU TRY!**

Solve: $5^{3x}=5^{4x+1}$ Solve: $64^{x}=16^{x+1}$ Solve: $3^{7x-3}=\frac{1}{9}^{2x}$

**Ex. 4:** $5(3^{x})=405$ **Ex. 5:** $4^{x}-10=6$ **Ex. 6:** $\frac{1}{9}^{x}=\frac{1}{27}^{x+2}$

**YOU TRY!**

Solve: $4(2^{2x})=32$ Solve: $5^{x-4}+8=133$ Solve: $\frac{1}{4}^{7x-3}=\frac{1}{8}^{2x}$