Goals:

- I can solve exponential equations.
- I can solve exponential inequalities.

Name: _____

Algebra II
Solving Exponential Equations

KeyConcept Compound Interest

You can calculate compound interest using the following formula.

$$A = P\left(1 + \frac{r}{n}\right)^{nt},$$

where A is the amount in the account after t years, P is the principal amount invested, r is the annual interest rate, and n is the number of compounding periods each year.

Example 1: **Compound Interest**

An investment account pays 4.2% annual interest compounded monthly. If $2,500 is invested in this account, what will be the balance after 15 years?

Example 2: **Compound Interest**

Find the balance of an account after 7 years if $700 is deposited into an account paying 4.3 % interest compounded monthly.

Solve Exponential Inequalities

Example 3: **Solve Exponential Inequalities**

a. $16^{2x-3} < 8$

b. $2^{x+2} > \frac{1}{32}$

c. $8^{4x+2} = 64$

d. $5^{x-6} = 125$