Homework: pg 485 #1-3(ace), 4a, 5ace, 6ab, 7, 8ace, \*12, 14, 16

**Solving Exponential Equations**

**Example 1**

Solve the following exponential equation using multiple techniques.

$$10=80(2)^{\frac{3}{x}}$$

Method 1 (Using Logarithms) Method 2 (Using Common Base)

**Example 2**

Solve the following using common bases.

1. $4^{2x-3}=8^{x+5}$ b) $27^{x-2}=\sqrt[3]{81}$

**Example 3**

Solve the following exponential equations.

a)$3^{x+2}-3^{x}=18$ b) $4^{x}+2^{2x-5}=12$

**Example 4**

Solve the following exponential equations.

a)$5^{x-2}=3^{x+2}$b) $3^{x}5^{x-3}=24$

**Example 5**

Solve the following exponential equation.

$$2(2^{2x})+7(2^{x})-4=0$$

**Example 6**

Marylou puts $5000 into a bank account that earns 5% compounded annually. She wishes to purchase a car that is currently worth $25,000. The car depreciates at a rate of 12% each year. When will she be able to purchase the car?