**COMPOUND INTEREST**

Jim has $20 in a savings account earning 25% interest annually.

To the nearest cent, how much will he have in 3 years?

Use the formula **B=p(1+r)t**

**B** is the balance (final amount),

**p** is the principal (starting amount),

**r** is the interest rate expressed as a decimal,

**t** is the time in years.

 **B=p(1+r)t**

 **=$20(1+.25)3**

 **=$20(1.25)3**

 **=$20x1.953125**

 **=$39.0625**

 **=$39.06**

**Simple Interest is $5 each year ($15 over 3 years)**

**$20 + $15 = $35**

**Compound Interest** =$20 + **$19.06 = $39.06**

Kim has $100 in a savings account earning 25% interest annually.

To the nearest cent, how much will he have in 4 years?

Use the formula **B=p(1+r)t**

**B** is the balance (final amount),

**p** is the principal (starting amount),

**r** is the interest rate expressed as a decimal,

**t** is the time in years.

 **B=p(1+r)t**

 **=$100(1+.25)4**

 **=$100(1.25)4**

**=$100x2.44140625**

 **=$244.140625**

 **=$244.14**

**Simple interest is just $25 each year, so only $100 over 4 years =$100 + $100 = $200**

**Compound Interest=$100 + $144.14 = $244.14**

**Or $1000 at 10% compound interest for 3 years**

**0 yr - $1000: $1000 x .10 =**

**$100 (interest made)**

**1st yr - $1100: $1100 x .10 =**

**$110 (interest made)**

**2nd yr - $1210: $1210 x .10 =**

**$121 (interest made)**

**3rd yr - $1331**

**Instead of just $100/yr in simple interest = $1300**