

L3 - Compound Interest / Initial Amount

MCR3U

Jensen

General Properties of Exponential Decay

Equation:

$a =$

$b =$

$y =$

$x =$

To calculate x , use the equation:

Finding Initial Amount

Example 1: You are going to ship some U-239 which has a half-life of 2 years. There must be 500g upon arrival. If shipping will take 4 months, how much should you package initially?

Example 2: We (as a class) have been hired by a surgeon to grow a skin graft. It takes 3 days for the amount of skin to double. If we need 2kg of skin in one week, how much should we start with?

Compound Interest

Formula:

A :

P :

i :

n :

t :

Example 3: You have just passed GO and you receive \$200. You decide to invest it for 4 years in an account that pays 5% interest per year. How much will you have after 10 years if...

a) the interest is compounded annually?

b) the interest is compounded semi-annually?

c) the interest is compounded monthly?

Example 4: You are about to go to University. When you are done in 4 years, you want to buy a new car. The one you are looking at costs \$16,000. If you can find an investment that pays 10.9% interest per year, compounded annually, how much should you invest now?