

### First tutorial

1- At what interest rate would \$ 100,000 now be equivalent to \$ 80,000 one year ago?

$$100,000 - 80,000 = 20,000 \rightarrow 20,000 / 80,000 = 0.25 \text{ or } 25\%$$

2- we now borrow \$1,000 for 3 years at 10% per year compound interest. How much do we pay at the end of 3 years?

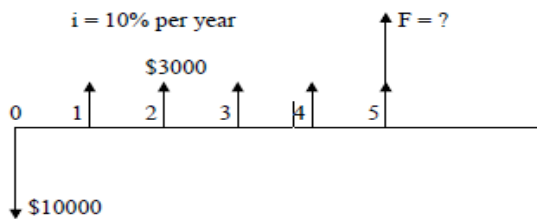
$$\text{Year 1 interest} = 1,000(0.1) = 100$$

$$\text{Total amount due after year 1} = 1,000 + 100 = 1,100$$

$$\text{Total amount due after year 2} = 1,100 + 1,100(0.1) = 1,210$$

$$\text{Total amount due after year 3} = 1,210 + 1,210(0.1) = 1,331$$

3- Construct a cash flow diagram for the following cash flows: \$10,000 outflow at time zero, \$3,000 per year inflow in years 1 through 5 at an interest rate of 10% per year, and an unknown future amount in year 5.



4- Construct a cash flow diagram for the following cash flows: \$10,000 outflow at time zero, \$3,000 per year outflow in years 1 through 3 and \$9000 inflow in years 4 through 7 at an interest rate of 10% per year and an unknown future amount in year 8.

