Day4-MCR3U

 **Regular Payments of an Annuity (Present Value)**

***Goal: Calculate the regular deposit/payment of an annuity***

|  |  |
| --- | --- |
| ***RECALL: FUTURE VALUE****Use to find the value* ***at the end of an annuity*** *(after all deposits are made & interest is accrued)*  | ***RECALL: PRESENT VALUE****Use to find the money needed* ***at the beginning of an annuity*** *to provide regular annuity payments*   |

***Calculating the Regular Payment of an Annuity***

When we know the future value or the present value of annuity, we can ***rearrange the formula*** to ***ISOLATE R*** to ***solve for the regular payment***. Remember, rearranging formulas means you do BEDMAS backwards.

***![C:\Users\Vicki\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\5AABLPBI\MC900361468[1].wmf]()EXAMPLE 1*** ***Determining Payments given the Amount (Future Value)***

Brianne wants to save $6000 for a trip she plans to take in 5 years. What **regular deposit** should she make at the end of every 6 months into an account that earns 6% per year compounded semi-annually?

***![C:\Users\Vicki\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\UTBM81HY\MC900431595[1].png]()EXAMPLE 2*** ***Determining Payments Given the Present Value***

Donald borrows $1200 from an electronics store to buy a computer. He will repay the loan in equal monthly payments over 3 years, starting 1 month from now. He is charged interest at 12.5% per year compounded monthly. How much is Donald’s monthly payment?

***EXAMPLE 3*** ***Comparing Loan Options***

 Sheri borrows $9500 to buy a car. She can repay her loan in 2 ways.

* **Option A**: 36 monthly payments at 6.9% per year compounded monthly
* **Option B**: 60 monthly payments at 8.9% per year compounded monthly
1. What is Sheri’s monthly payment for each option?
2. How much interest does Sheri pay for each option?
3. Give a reason why Sheri might choose each option.

**Homework:** p. 520 #1a, 3bd, 4,8,13