

Assigned Problems: Present Value of an Annuity

1. Text page 395 #6, 8, 11 (use the PV equation for these problems).
2. Eliza starts a new job at the age of 25. Every 6 months (twice a year) she deposits \$3000 into an R.R.S.P. that pays 3.5%/a compounded semi-annually. She hopes to retire at the age of 65. **You may use a TVM Solver for this problem.**
 - a) If Eliza retires at the age of 65, how much will her R.R.S.P. be worth?
 - b) How much total interest did the R.R.S.P. earn during those years she was saving?
 - c) What is the benefit of using an R.R.S.P. instead of a regular savings account?
 - d) Eliza retires at the age of 65. She puts her money (from part a)) into an retirement pension fund. The fund will also collect interest at 3.5%/a compounded monthly. She plans to make equal monthly withdrawals from the fund for the next 30 years. Find the amount of each withdrawal.
3. Could you retire if you had a million dollars right now? Suppose you put \$1 000 000 into an annuity that collects interest at 2.1%/a compounded monthly. At the end of every month you will make an equal withdrawal. What is the amount of this withdrawal if:
 - a) You plan to keep withdrawing money for the next 40 years.
 - b) You plan to keep withdrawing money for the next 60 years.

ANSWERS to #2 and #3

2. a) \$515 381.47 b) \$275 381.47 c) the money spent on an RRSP is not taxed d) \$2314.29

3. a) \$3081.14 b) \$2444.02