1) [10 marks] To get a head start on saving for his education, Asher is saving some of his allowance money. Every 3 months he will have saved $200 that he can invest at 8% compounded quarterly. He will do this for 2 years.

a) Divide 8% by 4 to get the interest rate per 3 months:

b) Multiply 2 by 4 to get the number of deposits Asher will make:

c) Complete the following table to determine how much Asher will have in 2 years:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time | Starting Balance | Calculate the Interest | Ending Balance (before deposit) | Deposit | Ending Balance (after deposit) |
| 3 months |  | $$×1.02$$ |  | $$+200$$ |  |
| 6 months |  | $$×1.02$$ |  | $$+200$$ |  |
| 9 months |  | $$×1.02$$ |  | $$+200$$ |  |
| 1 year |  |  |  |  |  |
| 15 months |  |  |  |  |  |
| 18 months |  |  |  |  |  |
| 21 months |  |  |  |  |  |
| 2 years |  |  |  |  |  |

(deposits)

4

4

0

d) Use the TVM solver to verify your answer from part c)

(deposits)

2) If you put 50$ away in a savings account **every month** for 40 years, how much money would you have in the end? You can assume that you get 4% compounded monthly on your investment.

a) What is PpY and CpY if we deposit every month?

b) How many months are in 40 years?

c) Solve for FV:

d) How much money did you deposit in total over those 40 years?

e) How much interest did you make?

3)Bort gets paid bi-weekly (every other week, so 26 times per year). He invests $100 every other week into an RRSP (retirement savings plan). This plan pays 6.1% interest compounded bi-weekly. How much money will Bort have when he retires in 45 years?

(deposits)

a) What is PpY and CpY if we deposit every other week?

b) How many bi-weekly periods are there in 45 years?

c) Solve for FV:

d) How much money did Bort deposit in total over those 45 years?

e) How much interest did Bort earn over those 45 years?