1. Why should a financial manager use the NPV decision rule? [2 pts]

2. Your bank sends you a notice saying that it will change the way it computes interest on your savings. Rather than an APR of 2.40%, compounded monthly, they will pay an APR of 2.41%, compounded semi-annually. Show whether you are better or worse off. [2 pts]

3. Let’s say that social security promises you $40,000 per year starting when you retire 45 years from today (the first $40,000 will come 45 years from now). If your discount rate is 7%, compounded annually, and you plan to live for 15 years after retiring (so that you will get a total of 16 payments including the first one), what is the value today of social security’s promise? [2 pts]

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EAR = (1 + r)^m - 1 \\
PV = \frac{FV}{(1 + r)^n} \\
PV = \frac{CF}{r} \left[1 - \frac{1}{(1 + r)^n}\right] \\
FV = PV \left(1 + r\right)^n
\]