

BA 519
Advanced Managerial Finance

SUSIE Problem

First Problem

1. FV of an annuity of \$1,000 for 10 periods = \$15, 937.42 (This includes the five, \$1,000 payments that have already been made and the five payments that are scheduled for the next five years). This FV is at the time that Susie is going to begin College.
2. Determine the amount that Susie needs to have at the time she begins college ($t = 0$) to cover the four, \$8,000 payments coming up. It is the PV of a \$8,000 annuity = \$25,358.92
3. Shortfall at $t=0$: $\$25,358.92 - \$15, 937.42 = \$9,421.50$
4. From the standpoint of where we are today, this shortfall is in the future—we are five years away from Susie beginning college. Thus we need to determine an annuity amount whose FV is equal to this shortfall.
 - a. $FV = \$9,421.50, N = 5, I/Y = 10\%, CPT, PMT$
5. ANSWER: \$1,543.22

Second Problem

1. We are now at $t = 0$, i.e., the time at which Susie was expected to start college. We have \$25,358.92 in the account.
2. Subtract \$2,433 for her wedding; leaving us with \$22,925.92
3. Find PV of a 3 period \$4,000 annuity: \$9,947.41; subtract this from \$22,925.92 leaving us with \$12,978.51. This is at $t=0$
4. Find FV of \$12,978.51 in 3 years (that is the time you will start graduate school): \$17,274.40; this is the amount of money available for you to pay for graduate school that you plan on attending in the **future**.
5. $PV = \$17,274.40, N = ?, I/Y = 10\%, PMT = \$5,450.$
6. ANSWER: 4