

## Problem 1

Suppose you invest \$2,500 in an account that generates compound interest with an APR of 5% for 30 years.

- (a) If your account compounds every year, how much money will you have in the account after 30 years? (3 points)
- (b) If your account compounds every month, how much money will you have in the account after 30 years? (3 points)

## Problem 2

Some say it will cost \$250,000 to send a child born today through college 17 years from now. Suppose the parents of one such child can invest money at a 6% annual rate, compounded monthly. How much should they invest now to have enough money on hand to cover their child's college expenses in 17 years? Assume they pay all \$250,000 in one lump sum in exactly 17 years.

## Problem 3

Fipps Landscaping Company invested \$20,000 in a compound interest account paying 12% compounded monthly, and left the money in the account for three years without making any other deposits or withdrawals on the account. What was the future value of the account at the end of the three years?

## Problem 4

Frank Stankowicz, owner of New Homes from Old Remodeling and Renovation Company, owns a dump truck that he uses for hauling construction debris away from construction sites. Frank anticipates that he will need to replace the truck body five years from now at a cost of approximately \$18,000. How much must Frank invest in his credit union account, which pays 10% compounded quarterly, so that he will have the \$18,000 needed in five years?