

2. [10 points] Alex and Chris decide to invest money in a savings account to prepare for their expenses after they land a posh mathematical consulting job following their success in calculus. They deposit \$100 on the first of each month into an account that pays 0.4167% interest at the end of each month (an annual yield of about 5%). Let B_n be the amount in their account immediately after their n th deposit.

(a) [5 points of 10] B_n is a sequence. Give the first four terms in this sequence.

(b) [5 points of 10] Write a general, closed-form, formula for B_n (your expression should involve none of the symbols Σ , \dots , or \int).