



SAVINGS & DEBT

Once a student leaves college, their journey is only at the beginning. 2/3 of all students leave college with the average debt of \$29,400. Nearly all are left with little in savings. In this assignment, you will use arithmetic series to explore the financial goals of a few recent graduates.



PAYING DOWN DEBT

Eden graduated college with a communications degree and is working at a local radio station earning \$3,000 per month. She plans to use \$250 every month to pay toward her student loan debt. If she owes \$21,500, how long would it take for her to pay down the principal of the loan (neglecting the interest)? Write an arithmetic sequence to model the situation. How much would she still owe on the principal after 24 months? 48 months?

Cesar earned a medical lab technician degree and is working at a hospital earning \$5,000 per month. He plans to use \$450 every month to pay toward his student loan debt. If he owes \$34,750, how long would it take for him to pay down the principal of the loan (neglecting the interest)? Write an arithmetic sequence to model the situation. How much would he still owe on the principal after 36 months? 72 months?



BUILDING A SAVINGS



Ted earned a mechanical engineering degree and is working at a design firm earning \$4,500 per month. He plans to put \$175 in savings every month. If he currently has \$2,500 in savings, how much would he have in the long run? Write an arithmetic sequence to model the situation. How much would he have in savings after 12 months? 24 months?

Safiya earned a school counselor degree and is working at an elementary school earning \$2,800 per month. She plans to put \$280 in savings every month. If she currently has \$750 in savings, how much would she have in the future? Write an arithmetic sequence to model the situation. How much would she have in savings after 60 months? 100 months?



HOME PURCHASE – CHALLENGE



Ting Fen purchased a condo which required a \$110,000 loan. Her monthly payment is \$558. The recursive formula $b_t = 1.00375b_{t-1} - 558$ describes the balances left on her loan after she make t payments. Find the balances of her loan after the first eight payments.

Name _____

Date _____

Period _____