

MGF /

Using the ALEKS periodic deposit calculator to compute savings which...

Using the ALEKS periodic deposit calculator to compute savings which include periodic deposits

Tom opened a retirement account earning 5.5% interest per year, compounded monthly. He deposited \$75 each month. Assume that no other deposits or withdrawals were made.

Answer the following, writing your answers to the nearest dollar.

(a) Use the ALEKS Periodic Deposit Calculator to find the account balance at the end of each time period.

15 years	30 years	45 years
\$20906	\$68521	\$176968

(b) Use the answers in part (a) to find the increase in the account during each period.

Period 1 1 st 15 years	Period 2 2 nd 15 years	Period 3 3 rd 15 years
\$20906	\$47595	\$108997

(c) Select True or False.
 The amount in the account did not grow faster over time. (The increase was the same in each period.)
☐ True ☒ False

(d) Select the true statement about the deposits made.
☐ There was more money deposited during Period 1 than Period 2.
☒ The amount of money deposited during the period was the same for each period.

(e) Select the true statement about the interest earned.
☒ The account earned more interest during Period 2 than Period 1.
☐ The account earned the same amount of interest in each period.

ALEKS Periodic Deposit Calculator

Monthly deposit: \$ 75

Number of years: 45 years

Interest rate: 5.5 %

Account Balance: **\$176,968**

Calculate

Note: Rounded to the nearest dollar.

$$\begin{aligned}
 1^{st} \text{ 15 years: } & 20906 - 0 = 20906 \\
 & \quad \quad \quad -13500 \\
 & \quad \quad \quad \hline
 & \quad \quad \quad 7406 \\
 2^{nd} \text{ 15 years: } & 68521 - 20906 = 47595 \\
 & \quad \quad \quad -13500 \\
 & \quad \quad \quad \hline
 & \quad \quad \quad 34095 \\
 3^{rd} \text{ 15 years: } & 176968 - 68521 = 108447 \\
 & \quad \quad \quad -13500 \\
 & \quad \quad \quad \hline
 & \quad \quad \quad 94947
 \end{aligned}$$

$$75 \times 12 \times 15 = 13,500$$

Note: The Solve feature is not available to students.