

8. Peter earned **\$1500** and deposited the money that earned **5%** interest yearly.
- If the growth is arithmetic,**
- Write a recursive equation that describes the amount of money in the bank. _____
 - Write an explicit equation that describes the amount of money in the bank. _____
 - How much money would Peter have in 5 years? _____

If the growth is geometric,

- Write a recursive equation that describes the amount of money in the bank. _____
 - Write an explicit equation that describes the amount of money in the bank. _____
 - How much money would Peter have in 5 years? _____
 - Write the equation if his initial deposit was only \$1000? _____
 - How much money would he have in 5 years if his initial deposit was only \$1000? _____
 - Write the explicit equation if he put \$1500 in an account that paid 5.25% yearly? _____
 - How much money would he have in 5 years with this higher interest rate? _____
 - At this rate, when will Peter have \$20,000 in his account? _____
 - Find $f(20)$. _____ What does that mean? _____
9. Using the points **(2, 5)** and **(3, 20)**.

- a. Complete the table for the **ARITHMETIC** sequence.

X	2	3	4	5
Y	5	20		

- Write a recursive equation for the sequence. _____
- Write an explicit equation for the Sequence. _____
- Find $f(10)$ _____

- e. Complete the table for the **GEOMETRIC** sequence.

X	2	3	4	5
Y	5	20		

- Write a recursive equation for the sequence. _____
- Write an explicit equation for the Sequence. _____
- Find $f(10)$ _____

10. McKenna buys a new car for \$20,000. The depreciation (loss in value) of the car is 18% each year.

- Make a table to show the worth of the car each year for 5 years.
- Write the explicit equation to show the value of the car at t years? _____
- Write a recursive equation. _____
- How much will her car be worth after 10 years. _____
- How long will it take McKenna's car to be worth under \$500? _____
- How long before McKenna's car is worth nothing? Explain _____

11. If $f(x) = 3(0.85)^x$

- Make a table.
- Increasing or decreasing?

- c. Find the Initial amount or $f(0)$

- d. Common Ratio (Multiplier)

- e. Find $f(5)=$

12. If $g(x) = 3(1.15)^x$

a. Make a table.

b. Increasing or decreasing?

c. Find the Initial amount or $g(0)$

d. Common Ratio (Multiplier)

e. Find $g(5) =$ _____