

# Exponential Growth and Decay Assignment

Solve the following problem involving exponential growth and decay using manual calculation.

A. A computer worth \$2500 depreciates 25% every year, what is the computers value during the fourth year?

	Time	Calculation	Value
	0	-	2500
(1.)	1		
(2.)	2		
(3.)	3		
(4.)	4		

B. The population of a 100,000. A sociologist determines that every five years the population increases by 20% of what it was in the beginning of the 5-year period. What will be the city population be in 20 years?

	Time	Calculation	Population
	0	-	100,000
(5.)	1 for 5 years		
(6.)	2 for 10 years		
(7.)	3 for 15 years		
(8.)	4 for 20 years		

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Solve the following problem involving exponential growth and decay using equation table.

C. A certain bacterial culture doubles in number everyday if there were 10000 bacteria in at the end of the first day, how many will be there after 5 days?

	Time	Equation	Amount
	1	$1000(2)^0$	10000
(9.)	2		
(10.)	3		
(11.)	4		
(12.)	5		
(13.)	t		

D. A Ford Everest cost \$45, 000 depreciates its value by 23% every year. What will be its value after 4 years?

	Time	Equation	Amount
	0	$45000(1-0.23)^0$	45000
(14.)	1		
(15.)	2		
(16.)	3		
(17.)	4		
(18.)	t		

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

# Exponential Growth and Decay Assignment

Solve the following problem involving exponential growth and decay using equation.

E. Find the final amount of \$3500 invested in the bank for 10 years compounded semi - annually at the following rates below.

19. 6% interest rate

20. 8% interest rate

21. 10% interest rate.

22. 12% interest rate

F. Find the final amount of \$500 invested in the bank for 5 years at 10% rate compounded at the following terms.

23. Compounded Annually

24. Compounded Semi-Annually

25. Compounded Quarterly