



Precalculus: Exponential Function

Name	Date	
Calculate the value of quantities	with an exponential behavior	
(1) A bank offers a savings account today. How much will have the inv	which gives a yearly interest rate of 3.6% . An investor deposits \$5, vestor in the account in 9 years?	,000
(2) The amount of area covered by in 2004 was 92 square miles. Estin	γ a dessert grows by 1.1% each year. It was estimated the area coverage the area for the year 2026.	ered
(3) The population of a country g many people will the country have	rows by 1.2% yearly. If today the population is $3,600,000$ people, 17 years from now?	how
(4) Communication equipment pu Determine its value 34 years after	rchased for $$37,000$ depreciates at a constant rate of 2.8% each y purchase.	/ear.
(5) The mass of a radioactive sul substance, how much remains afte	ostance decays by 2.7% each day. If today we have 141 Kg of r 4 days?	that
(6) Certain quantity grows at a co much will its value be 14 years fro	nstant rate of 2% per semester. Its present value is 8,500 units. I m now?	How





Answers

Calculate the value of quantities with an exponential behavior

- (1) A bank offers a savings account which gives a yearly interest rate of 3.6%. An investor deposits \$5,000 today. How much will have the investor in the account in 9 years? \$6,873.97
- (2) The amount of area covered by a dessert grows by 1.1% each year. It was estimated the area covered in 2004 was 92 square miles. Estimate the area for the year 2026.

Area for the year 2026= 117.03 square miles

- (3) The population of a country grows by 1.2% yearly. If today the population is 3,600,000 people, how many people will the country have 17 years from now? 4,409,316 people
- (4) Communication equipment purchased for \$37,000 depreciates at a constant rate of 2.8% each year. Determine its value 34 years after purchase.

Final value: \$14,088.17

(5) The mass of a radioactive substance decays by 2.7% each day. If today we have 141 Kg of that substance, how much remains after 4 days?

126.38 Kg

(6) Certain quantity grows at a constant rate of 2% per semester. Its present value is 8,500 units. How much will its value be 14 years from now?

14,798.71 units