

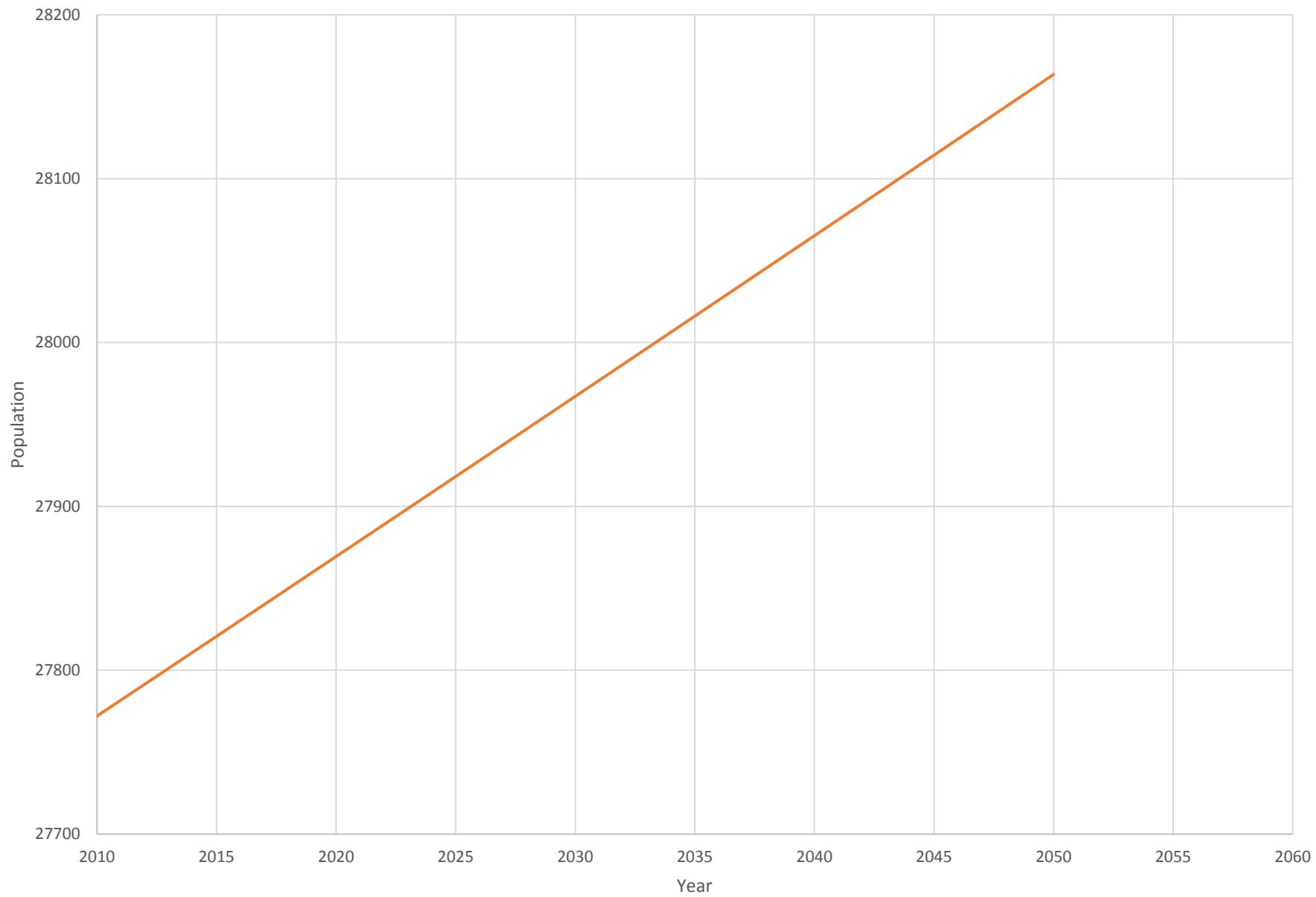
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Population Growth Model

Engineering 115

This technical analysis models the population growth over the next 50 years for the area of Crescent City Ca. using the exponential model.

Population Growth



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Engineering 115
Friday 2-5pm
42622

Initial Population	27772
Growth Rate	0.00035
Start Year	2005
Time Increment	5

Time(Actual Year)	Time(Model Year)	Model Population
2010	0	=B\$7*EXP(\$B\$8*B14)
=A14+\$B\$10	=B14+\$B\$10	=B\$7*EXP(\$B\$8*B15)
=A15+\$B\$10	=B15+\$B\$10	=B\$7*EXP(\$B\$8*B16)
=A16+\$B\$10	=B16+\$B\$10	=B\$7*EXP(\$B\$8*B17)
=A17+\$B\$10	=B17+\$B\$10	=B\$7*EXP(\$B\$8*B18)
=A18+\$B\$10	=B18+\$B\$10	=B\$7*EXP(\$B\$8*B19)
=A19+\$B\$10	=B19+\$B\$10	=B\$7*EXP(\$B\$8*B20)
=A20+\$B\$10	=B20+\$B\$10	=B\$7*EXP(\$B\$8*B21)
=A21+\$B\$10	=B21+\$B\$10	=B\$7*EXP(\$B\$8*B22)

Use your model to determine the doubling time (rounded to the nearest year) at the growth rate you calculated above. You may need to increase the number of years Excel calculates to determine this on your model page. Check your model prediction with the hand calculation you did at the beginning of lab. State the doubling time from your hand calculation and the double time provided by your model. Does the doubling time from your model match the doubling time from your hand calculation? The doubling time would be 1,980 years. The doubling time from my hand calculations was 1,980.4205 years this calculation does match the doubling time i got from excel.

Calculations for Question 1	
Initial Population	27,772
Growth Rate	0.00035
Doubling Time	1,980
Population	0
Final Population/Initial Population	$555,535/27772=2$

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Initial Population	27,772
Growth Rate	0.00035
Start Year	2005
Time Increment	5

Time(Actual Year)	Time(Model Year)	Model Population
2010	0	27772
2015	5	27821
2020	10	27869
2025	15	27918
2030	20	27967
2035	25	28016
2040	30	28065
2045	35	28114
2050	40	28164
	1980	55535.8256