	7.3 Models of Growth and Decay Exponential Functions	
Write an exponential function for each situation then solve the problem.		
1.	There are now 300 insects in a colony. The population doubles every 5 days. What is the population in 18 days?	
2.	For every meter a diver descends below the surface, the light intensity is reduced by 2.5%. P is the percent of surface light present. At a depth of 10m how much light remains?	
3.	A radioactive substance has a half-life of 6 years. If 20 grams are present initially, how much will remain after 2 years?	
Write 4.	an exponential function for each situation then solve the problem algebraically. The half-life of radioactive iodine is 8.2 days. After how long will only 25% of the iodine be present?	
5.	A bacteria starts with 6250 bacteria and doubles every 3 hours. When will the bacteria count be 50000?	

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6.	A colony of insects numbers 500 and doubles every 8 days. How long ago was the population 125?
7.	A radioactive substance has a half-life of 3.5 years. How long will it take for only 6.25% of it to remain?
8.	A painting triples in value every 8 years. It is currently worth \$1000. When will the painting be worth \$243000?
9.	A piece of machinery valued at \$30,000 depreciates at a rate of 10% per year. How much will it be worth in 7 years?
10.	\$1000 is invested at a rate of 3.2% compounded monthly. How much will it be worth is 50 years?