

Name : _____ Block : _____

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 an exponential function for each situation then solve the problem algebraically.

4. 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?

