

Section 3.8

3. (a) Since the growth rate is proportional to the size, the expression should be in exponential form.
(b) Let $t = 3$.
(c) Differentiate the expression in (a).
(d) Solve the equation $y = 10000$.
5. Observe how the population increases in each 50 years.
9. (a) Use the exponential model.
(b) Let $t = 100$.
(c) Solve the equation $y = 1$.
11. Use the exponential model as in 9. with the half-life 5730 years.
12. Use Theorem 2.
20. Consider the steps in Example 4.