MA 16020 LESSON 14: DIFFERENTIAL EQUATIONS: GROWTH, DECAY, SEPARATION OF VARIABLES (PROBLEM SET)

Example 3: A radioactive element decays with a half-life of 8 years. If a mass of the element weighs 6 pounds at $t = 0$, find the amount of the element after 11.9 years.

Example 4: Let y denote the mass of a radioactive substance at time t. Suppose this substance obeys the equation
$$y' = -18y$$
Assume that, initially, the mass of the substance is $y(0) = M > 0$. At what time does half of the mass remain?