1. Compute and simplify the expression the inverse of each of the following functions

   (a) $f(x) = 2\sqrt[3]{x} - 11$

   (b) $f(x) = \frac{3x + 2}{x - 7}$

2. A radioactive substance decays exponentially. A scientist begins with 115 milligrams of this radioactive substance. After 43 hours, 59 mg of the substance remains. How many milligrams will remain after 54 hours?