Worksheet for Logarithmic Functions

NAME: _______________________

1. Solve for x using logs:

   a. \(17^x = 2\)

   b. \(4 \cdot 3^x = 7 \cdot 5^x\)

   c. \(50 = 600e^{-0.4x}\)

   d. \(7^{x^2} = e^{17x}\)

   e. \(2x - 1 = e^{\ln x^2}\)

2. Solve for \(t\) (assume that \(a\) and \(b\) are positive constants and that \(k\) is nonzero)

   a. \(a = be^t\)

   b. \(P = P_0e^{kt}\)

3. Find the inverse function:

   a. \(p(t) = (1.04)^t\)

   b. \(f(t) = 1 + \ln(t)\)

4. Find the half-life of a radioactive substance that is reduced by 30% in 20 hours.