1. Solve for $x$ in the equation below

$$2 = \ln(x + 1) + \ln(x - 1)$$

2. Find the exponential function $f(x) = Ca^x$ whose graph passes through the points $(1, 6), (-1, \frac{3}{2})$. 
3. Assume \( f(1) = 3, \ g(3) = 4, \ f(0) = -2, \ g(0) = 1 \)

Find

(a) \( f(g^{-1}(1)) \)

(b) \( g(f(1)) \)