1. In each of the following solve for $x$

(a) $\ln (\ln(2^x)) = 1$

(b) $3^{\ln x^2} = 10$
2. Express the given quantity as a single logarithm

(a) \(3 \log a + 1/3 \log(a^2 - 3)^3\)

(b) \(- \ln(y + y^2) + 4 \ln(3^{1/2})\)

3. True or False?

(a) \(\arccos(\cos(\pi/2)) = \arccos(\cos(3\pi/2))\)

(b) \(\tan^{-1}(-1) = 3\pi/4\)

(c) \(\tan^{-1}(x) = \frac{\sin^{-1}(x)}{\cos^{-1}(x)}\)