1. Use the properties of logarithms to expand $\log_3\left(\frac{9\sqrt{x}}{z^2y^3}\right)$

2. Use the properties of logarithms to condense

$\frac{1}{3}\ln x + \ln y - 3\ln z$

3. $\log_5(x-3) + \log_5(x+2) = \log_5 24$