

9. [11 points] Solve the following equations algebraically. Show all your work. Your answers should be **exact**.

a. [4 points] $\log(x + 1) - \log(x) = 1$.

$$x = \underline{\hspace{2cm}}.$$

b. [3 points] $e^{3\ln(q)} = 2q^3 - 5$.

$$q = \underline{\hspace{2cm}}.$$

c. [4 points] $10\log(z^2) = \log(z) + 1$.

$$z = \underline{\hspace{2cm}}.$$