1) Find the roots of each equation

a) $2 = \log(x + 25)$

b) $1 - \log(w - 7) = 0$

c) $6 - 3\log(2n) = 0$

2) Solve

a) $5 = \log_2(2x - 10)$

b) $9 = \log_5(x + 100) + 6$

c) $\log_3(n^2 - 3n + 5) = 2$

3) Solve. Make sure to reject any extraneous roots.

a) $\log x + \log(x - 4) = 1$

b) $\log x^3 - \log 2 = \log(2x^2)$

c) $\log(v - 1) = 2 + \log(v - 16)$

d) $\log(k + 2) + \log(k - 1) = 1$

4) Solve. Check for extraneous roots.

a) $\log \sqrt{x^2 - 3x} = \frac{1}{2}$

b) $\log \sqrt{x^2 + 48x} = 1$

5) Solve. Check for extraneous roots.

a) $\log_2(x + 5) - \log_2(2x) = 8$

b) $\log(2k + 4) = 1 + \log k$