1. Find the domain, x intercept and vertical asymptote of the function

$$f(x) = \log_5(x - 4) \tag{1}$$

2. Use the properties of logarithms to expand the expression as sum, difference or constant multiple of logarithm.

$$\log(\frac{x^2 - 3x + 2}{\sqrt[3]{x^5}} \tag{2}$$

3. Solve the logarithm equation.

$$\log_4(2x+1) - \log_4(2x-1) = \frac{1}{2} \tag{3}$$

4. If $\log(x+2) = 3$ and $\log(x-2) = 4$, find the value of

$$f(x) = x^2 - 4 \tag{4}$$