# Logarithmic Functions Precalculus {PLEASE box answer}

1. Convert to exponential form: $\log_{169} 13 = \frac{1}{2}$

2. Convert to logarithmic form: $2^{-3} = \frac{1}{8}$

3. Evaluate the logarithm: $\log_3 81$

4. Evaluate the logarithm: $\log_8 32$

5. Identify the domain: $f(x) = \log_3(x - 1)$

6. Identify the range: $f(x) = \log_3(x - 1)$

7. Identify the equation of the vertical asymptote: $f(x) = \log_5(x + 9) - 2$

8. Identify the transformations from the parent function: $f(x) = \log_5(x + 9) - 2$

9. Solve the logarithmic equation: $\log_4(3x + 7) = 3$

10. Identify the domain: $f(x) = \log_5(x + 9) - 2$

11. Identify the domain: $f(x) = \log(x + 7)$

12. Identify the range: $f(x) = \log(x + 7)$

13. Identify the equation of the vertical asymptote: $f(x) = \log_2(x - 4) + 3$

14. Identify the transformations from the parent function: $f(x) = \log_2(x - 4) + 3$

15. Identify the inverse function: $f(x) = \log_3(x - 1)$

16.Identify the inverse function: $f(x) = \log(x + 7)$

17.Identify the inverse function: $f(x) = \log_5(x + 9) - 2$

18.Sketch a graph of the function: $f(x) = \log_2(x - 4) + 3$ {Make a table of values}
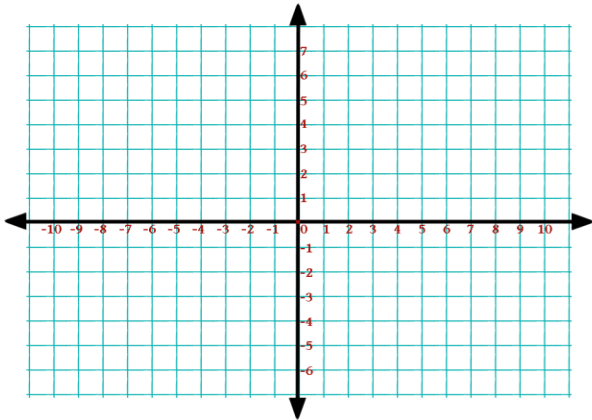
x	y

19.Use properties of logarithms to simplify: $4^{\log_4 5x}$

20.Use properties of logarithms to simplify: $e^{\ln 7}$