

Classwork Logarithmic Functions

Please work all problems on a separate sheet of paper.

Rewrite the following in logarithmic form.

1. $3^{-2} = \frac{1}{9}$

2. $36^{\frac{1}{2}} = 6$

3. $e^t = P$

Rewrite the following in exponential form.

4. $\log \frac{1}{10} = -1$

5. $\ln 1 = 0$

6. $\log_3 t = N$

By translating, reflecting, and stretching the graph of $f(x) = \log x$, obtain the graphs of the following functions. Give the domain, range, and equations of any asymptotes of the function.

7. $f(x) = \log(x-1)$

8. $f(x) = \log x + 1$

9. $f(x) = \log(x+2) - 3$

10. $f(x) = 2 - \log(x-1)$

By translating, reflecting, and stretching the graph of $f(x) = \ln x$, obtain the graphs of the following functions. Give the domain, range, and equations of any asymptotes of the function.

11. $f(x) = \ln(x+1)$

12. $f(x) = \ln x + 4$

13. $f(x) = \ln(x-2) + 1$

14. $f(x) = 3 - \ln(x+2)$