Math 375, Spring 2026, Quiz 27, 4/24/26 **Name:**

1) Prove the Quotient Property of Logs

$\log_b\left(\frac{M}{N}\right) = \log_b(M) - \log_b(N)$

2) Solve $13^x = 0.122$. Write answer to 3 decimal places.

Ans

1) Write $\log_b(M) = x$ and $\log_b(N) = y$.
Then we have $b^x = M$ and $b^y = N$.
Then LHS $= \log_b\left(\frac{M}{N}\right) = \log_b\left(b^x / b^y\right) = \log_b\left(b^{x-y}\right) = x - y =$ RHS

2) $x = -0.820$