

Name:

Perm number:

Test 2

Time: 75 minutes

1. Find the limit of $f(y) = (y^2 + 2y + 1)/(y + 1)$ at the point $y = -1$.

2. Evaluate this sum: $\sum_{n=0}^4 n^3 =$

3. Find the equation of the line passing through the points $(-3,-5)$ and $(5,-2)$.

4. Solve the equation $2^x = 5 \cdot 3^x$. Give your answer in terms of logarithms to the base 10.

5. A bank pays 7% interest compounded monthly. There is \$1000 in the account in January 2008. In what year will there be one million dollars in the account? Give your answer in terms of logarithms to the base 10.

6. How many years must a sample of Americium 241 (half life 458 years) be stored before it decays to 3% of its original mass? Give your answer in terms of logarithms to the base 10.