

Math 301

Quiz 10

Show all work in a neat and organized fashion. Clearly indicate your answers.
10 points possible.

1. (2 pts.) True or false: n^5 is $O(2^n)$.

2. (4 pts.) Find $\gcd(36, 80)$, and find integers x and y such that $36x + 80y = \gcd(36, 80)$.

3. (4 pts.) Let a, b, c, d be positive integers. Suppose a and b are relatively prime. Suppose also that $a \equiv 0 \pmod{c}$ and $b \equiv 0 \pmod{d}$. Prove that c and d are relatively prime.