Math 1150 - Autumn 2017   Name: _____

Quiz 3; Form A - In Class (10 pts)   Recitation Time: _____

SHOW ALL WORK!!! Unsupported answers might not receive full credit. Furthermore, please give me EXACT answers. You have 10 minutes to complete this quiz.

Problem 1   [4 pts] Factor the polynomial $f(x) = x^3 + 3x^2 - 16x - 48$. Use the factorization to find the zeros of $f(x)$ and state their multiplicities.

Problem 2   [3 pts] Determine whether the Intermediate Value Theorem guarantees that the function $f(x) = 3x^3 - 4x^2 + 5x - 7$ has a zero on the interval $[0, 2]$.

Problem 3   [3 pts] Let $p(x) = 3x^4 - 2x^3 + x^2 - 7$. Evaluate $p(2)$. Then, use the Remainder Theorem to determine the remainder when $p(x)$ is divided by $(x - 2)$.