Name _____ Student No._____ G___/____ Date: _____Score: _____
Nickname: _____ Quiz No.: _____

Graphing Polynomial

A. Give the possible roots (RRT), nature of roots (DRS), number of roots (FTA), factored form, actual roots, end behavior and graph of the given polynomial.

1) $f(x) = -x^4 + 2x^3 + 8x^2 - 18x + 9$

FTA: Atmost 4
Possible Roots: $\pm\{1, 3, 9\}$
Factored form: $-(x-3)(x-1)^2(x+3)$
Actual roots: -3, 1 mul. 2, 3
End Behavior:

$f(x) \to -\infty \ as \ x \to -\infty$
$f(x) \to -\infty \ as \ x \to \infty$

Graph: