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) $f(x) = 2x^5 + 4x^4 - 4x^3 - 8x^2 + 2x + 4$

FTA: Atmost 5
Possible Roots: $\pm\left\{\frac{1}{2}, 1, 2, 4\right\}$
Factored form: $2(x-1)^2(x+1)^2(x+2)$
Actual roots: -2, -1 mul. 2, 1 mul. 2
End Behavior:

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

Graph: