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

Graphing Polynomial

A. Identify the properties of the given polynomial equation then sketch its graph.

1) $f(x) = -x^3 - 3x^2 + x + 3$

FTA: Atmost 3
Factored form: $-(x-1)(x+1)(x+3)$
Actual roots: -3, -1, 1
End Behavior:

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

Graph:

2) $f(x) = -x^4 + 10x^2 - 9$

FTA: Atmost 4
Factored form: $-(x-3)(x-1)(x+1)(x+3)$
Actual roots: -3, -1, 1, 3
End Behavior:

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

Graph: