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

FTA: Atmost 3
Factored form: $-(x-1)(x+1)(x+2)$
Actual roots: -2, -1, 1
End Behavior:

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

Graph:

2) $f(x) = -x^4 - 4x^3 + 2x^2 + 12x - 9$

FTA: Atmost 4
Factored form: $-(x-1)^2(x+3)^2$
Actual roots: -3 mul. 2, 1 mul. 2
End Behavior:

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

Graph: