

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)  $f(x) = -2x^5 - x^4 + 9x^3 + 7x^2 - 7x - 6$

FTA: Atmost 5

Possible Roots:  $\{0.5, 1.0, 1.5, 2.0, 3.0, 6.0\}$

Factored form:  $-(x-2)(x-1)(x+1)^2 \cdot (2x+3)$

Actual roots:  $-3/2, -1$  mul. 2, 1, 2

End Behavior:

$$f(x) \rightarrow \infty \text{ as } x \rightarrow -\infty$$

$$f(x) \rightarrow -\infty \text{ as } x \rightarrow \infty$$

Graph: