Quiz10, MAT 1375 Professor Chiu

ID:_____   Name:_____

- This quiz consists of 2 sets of questions for a total of 10 points.
- You have 15 minutes to complete the quiz.
- Scientific calculators are allowed.
- Wishing you success.

True or False questions:

1. _____ $f(x) = 2x^2 + x^5$ is a polynomial with degree 2.

2. _____Odd-degree polynomial functions have graphs with opposite behavior at each end.

3. _____Even-degree polynomial functions have graphs with the same behavior at each end.

4. _____A root of a polynomial $f(x)$ appears as the y-intercept of the graph of $f(x)$.

Show all your work and justify your answer:

5. Work out the following problems about the polynomial function $f(x) = -3(x-1)^3(2x+4)^2$.

(1.)(2pt) Find the leading term of $f(x)$. Using **the leading coefficient test** to determine the **end behavior** of $f(x)$

(2.)(2pt) Find the **zeros** of $f(x)$ and their **multiplicities**.

(3.)(2pt) Find the y-intercept of $f(x)$.