King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

Math 101-03 (Term 141) - Quiz 5

Student Name_____ **Student ID:** _____

Exercise

Let $f(x) = -x^4 + 4x^3 - 10$. Answer the following:

1. $\lim_{x\to\infty} f(x)$ =

2. $\lim_{x\to-\infty} f(x)$ =

3. $f'(x)$ =

4. Find the Critical Points:

5. Complete the variation table:

x	- ∞ ∞
f '	
f	

6. $f''(x)$ =

7. Complete the concavity table and **find the inflection points**

x	- ∞ ∞
f ''	
f	

8. Sketch the **graph of** f (showing ALL **critical points** and ALL **inflection points** if any)