

Name: _____

Directions: Show all work. No credit for answers without work.1. **[3 points]** Find all inflection points of $f(x) = x^5 - 2x^4 + 18x$.2. **[3 points]** Find the exact global maximum and minimum values of $g(x) = \frac{x}{1+x^2}$ over $[0, 10]$.

3. [4 points] An ice cream company finds that at a price of \$3.50, demand is 5000 units. For every \$0.15 increase in price, demand decreases by 153 units.

(a) Find the demand q as a function of price p .

(b) Find the revenue R as a function of price p .

(c) Find the price and quantity sold that maximize revenue.